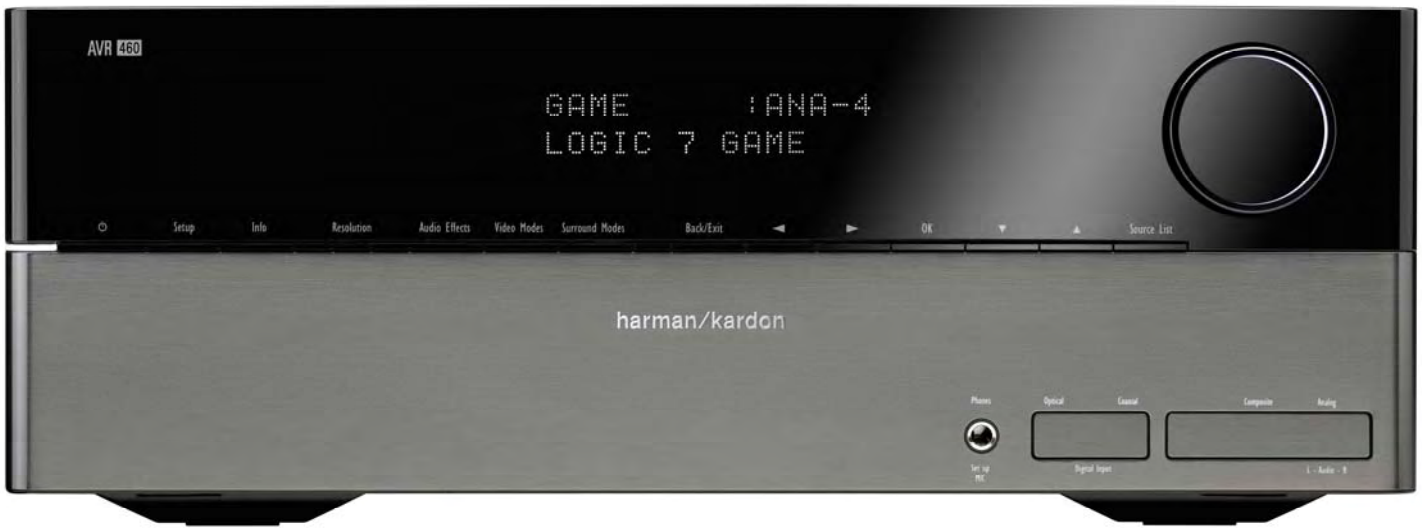
harman/kardon Service Manual

AVR 460/230

7 x 65W 7.1 CHANNEL A/V RECEIVER



CONTENTS

Released EU2010

Harman Consumer Group, Inc.
8500 Balboa Boulevard
Northridge, California 91329

Rev 0, 03/2010

ELECTROSTATICALLY SENSITIVE (ES) DEVICES

Some semiconductor (solid state) devices can be damaged easily by static electricity. Such components commonly are called Electrostatically Sensitive (ES) Devices. Examples of typical ES devices are integrated circuits and some field effect transistors and semiconductor "chip" components.

The following techniques should be used to help reduce the incidence of component damage caused by static electricity.

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging wrist strap device, which should be removed for potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge build-up or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an anti-static solder removal device. Some solder removal devices not classified as "anti-static" can generate electrical charges sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical change sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material.)
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.

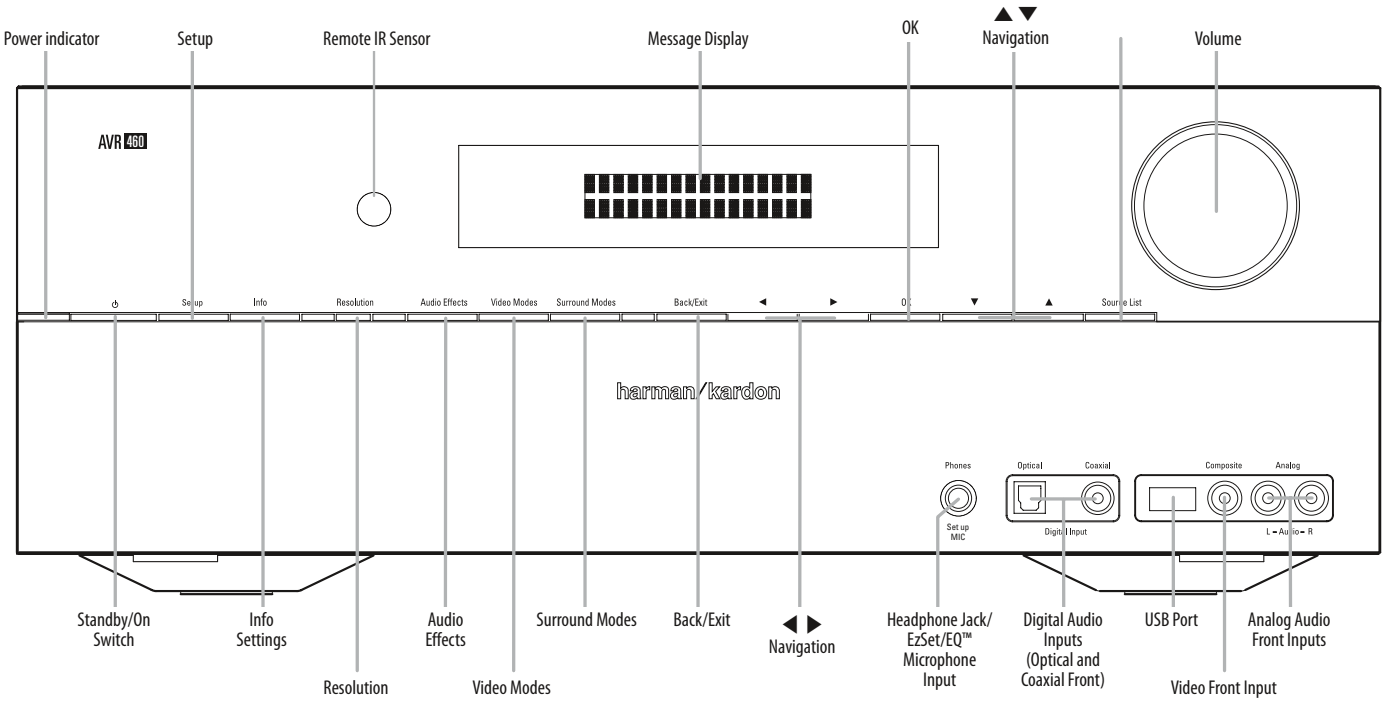
   CAUTION : Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.
8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together or your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ES devices.

PRODUCT SAFETY NOTICE

Each precaution in this manual should be followed during servicing.

Components identified with the IEC symbol ⚠ in the parts list are special significance to safety. When replacing a component identified with ⚠, use only the replacement parts designated, or parts with the same ratings or resistance, wattage, or voltage that are designated in the parts list in this manual. Leakage-current or resistance measurements must be made to determine that exposed parts are acceptably insulated from the supply circuit before retuming the product to the customer.

FRONT-PANEL CONTROLS



Power Indicator: This LED has three possible modes:

- **Main Power Off**: When the AVR is unplugged or the Main Power Switch is off, this LED is off.
- **Standby**: Amber indicates that the AVR is ready to be turned on.
- **On**: When the AVR is turned on, this LED turns white.

NOTE: If the PROTECT message ever appears, turn off the AVR and unplug it. Check all speaker wires for a possible short. If none is found, bring the unit to an authorized Harman Kardon service center for inspection and repair before using it again.

Standby/On Switch: This electrical switch turns the receiver on, or places it in Standby mode for quick turn-on.

AVR Settings Button: Press this button to access the AVR's main menu.

Info Settings Button: Press this button to directly access the AVR's Source Info submenu, which contains the settings for the current source.

Resolution: Press this button to access the AVR's video output resolution setting: 576i, 576p, 720p, 1080i or 1080p.

IMPORTANT NOTE: If the AVR's video output resolution is set higher than the capabilities of the actual connection, you will not see a picture. If the best available video connection from the AVR to the TV is composite press this button and change the resolution to 576i.

Audio Effects: Press this button to directly access the Audio Effects submenu, which allows adjustment of the tone and other audio controls. See the Initial Setup section for more information.

Video Modes: Press this button for direct access to the Video Modes submenu, which contains settings that may be used to improve the picture, if necessary, after you have adjusted the picture settings using the video display or TV.

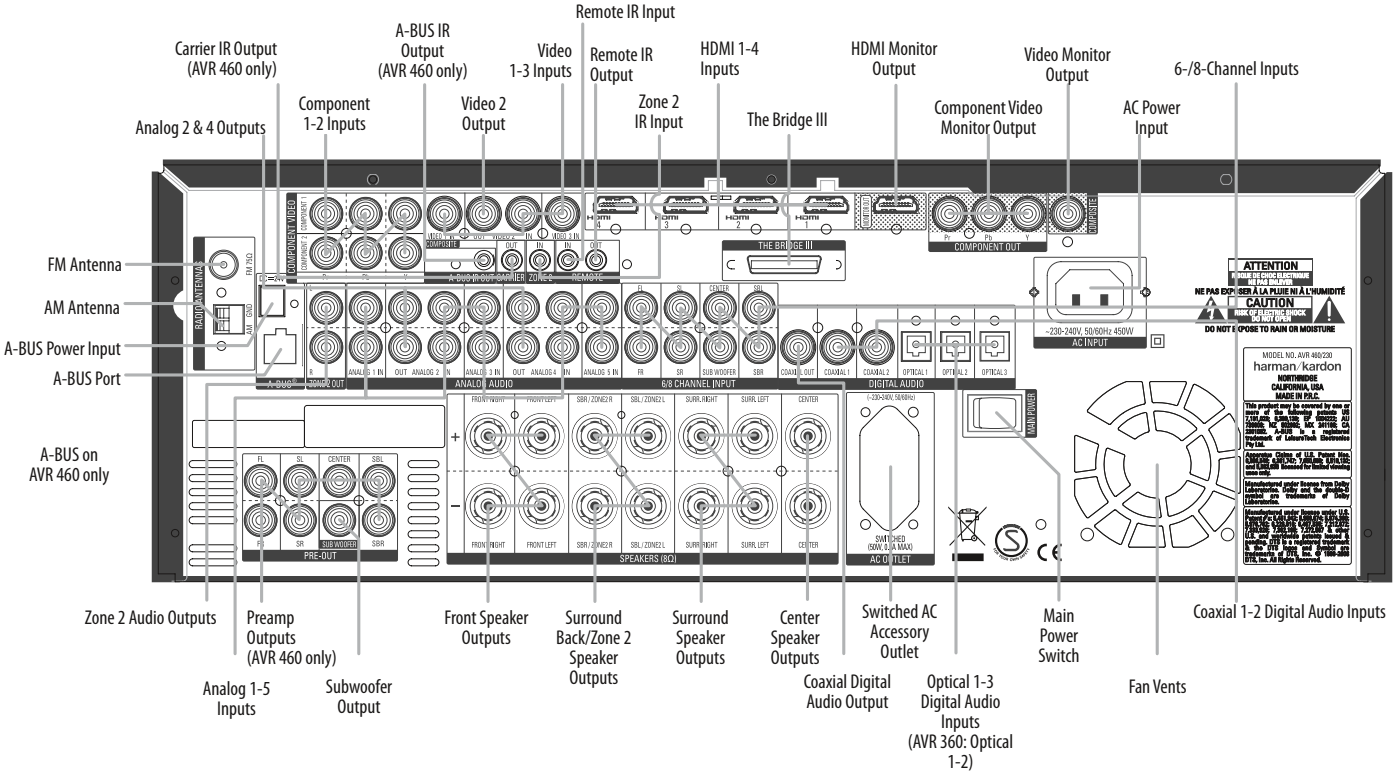
Surround Modes: Press this button to select a surround sound (e.g., multichannel) mode. The Surround Modes menu will appear on screen, and the menu line will appear in the front-panel display. See the Advanced Functions Manual for more information on surround modes.

Source List: Press this button to select a source device, which is a component where a playback signal originates, e.g., DVD.

Back/Exit: Press this button to return to the previous menu, or to exit the menu system.

ENGLISH

REAR-PANEL CONNECTIONS



Main Power Switch: This mechanical switch turns the power supply on or off. It is usually left on, and cannot be turned on or off using the remote control.

6-/8-Channel Inputs: Connect the multichannel analog audio outputs of a non-HDMI player (DVD-Audio, SACD™, Blu-ray Disc™ or HD-DVD, or any other external decoder) to these jacks.

Coaxial 1/2 and Optical 1/2/3 Digital Audio Inputs: If a source has a compatible digital audio output, and if you are not using an HDMI connection for audio for the device, connect it to one of these jacks to hear digital audio formats, such as Dolby Digital, DTS and linear PCM. Use only one type of digital audio connection for each source.

Coaxial Digital Audio Output: If a source is also an audio recorder, connect the Coaxial Digital Audio Output to the recorder's matching input for improved recording quality. Only PCM digital audio signals are available for recording. Both coaxial and optical digital audio signals are available at this Digital Audio Output.

Zone 2 Infrared (IR) Input: Connect a remote IR receiver located in the remote zone of a multizone system to this jack to control the AVR (and any source devices connected to the Remote IR Output) from the remote zone.

Remote Infrared (IR) Input and Output: When the remote IR receiver on the front panel is blocked, connect an optional IR receiver to the Remote IR Input jack. The Remote IR Output may be connected to the Remote IR Input of a compatible product to enable remote control through the AVR.

Remote IR Carrier Output(AVR 460 only): This output is similar in function to the Remote IR Output, with the difference that this jack outputs the full infrared signal as received by the AVR's IR sensor or the Remote IR Input, while the Remote IR Output jack outputs a "stripped" signal that has no carrier frequency.

HDMI Inputs and Output: HDMI (High-Definition Multimedia Interface) is a connection for transmitting digital audio and video signals between devices. Connect up to four HDMI-equipped source devices to the HDMI inputs using a single-cable connection.

When you connect the HDMI Output to your video display, the AVR 460/ AVR 360 will automatically transcode analog video signals to the HDMI format, upscaling to as high as 1080p.

NOTES: When connecting a DVI-equipped display to one of the HDMI Outputs:

- Use an HDMI-to-DVI adapter.
- Make sure the display is HDCP-compliant. If it isn't, do not connect it to an HDMI Output; use an analog video connection instead.
- Always make a separate audio connection.

Analog 1 – 5 Inputs: Connect the left and right analog audio outputs of a source device to any of these inputs. These inputs may be paired with any video inputs.

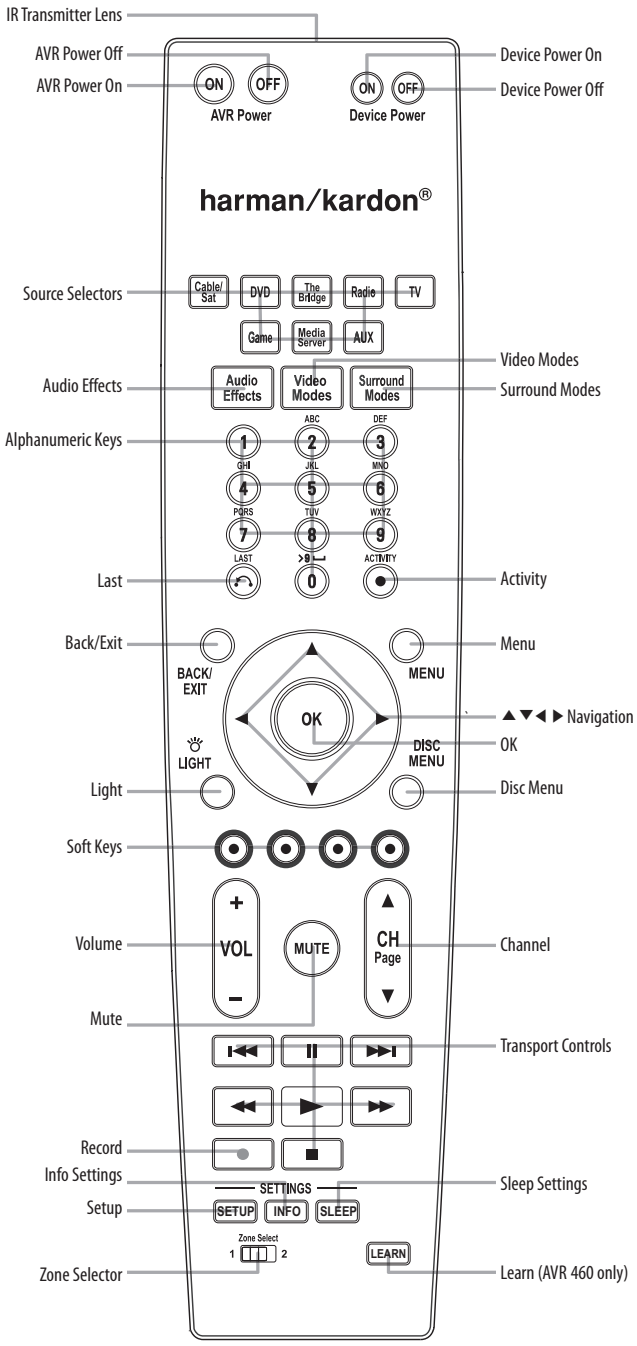
NOTES:

The Analog 2 and 4 inputs are each associated with a set of outputs. Consider using these connectors for an audio or video recorder.

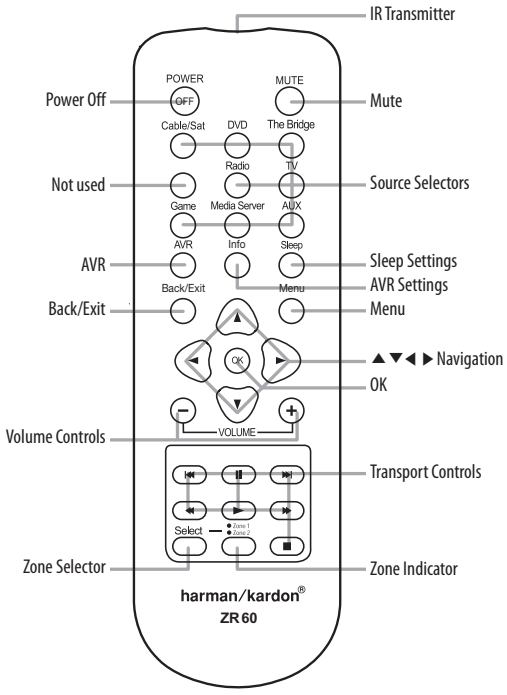
You may optionally connect a source to both an analog and digital audio input. This is useful for making recordings, for multizone applications or simply as a backup.

ENGLISH

REMOTE CONTROL FUNCTIONS



MAIN REMOTE CONTROL



ZONE 2 REMOTE CONTROL (AVR 460 only)

The AVR 460/AVR 360 remote is capable of controlling 8 devices, including the AVR itself and an iPod docked in The Bridge III. During the installation process, you may program the codes for your source components into the remote. To operate a component, press its Selector button to change the device mode.

Each Source Selector has been preprogrammed to control certain types of components, with only the codes specific to each brand and model changing, depending on which product code is programmed. The AUX and Cable/ SAT Source Selectors may be used for multiple device types. Other Source Selectors may be reassigned to other device types (see Initial Setup section).

AUX Source Selector: CD player, VCR, HDTV set-top box, PVD or TiVo® set-top box. Refer to page 23 for details on Source Selection.

Cable/SAT Source Selector: Cable set-top box or satellite set-top box.

IMPORTANT NOTE: All of the AVR 460/AVR 360's audio and video inputs are independently assignable. Select the inputs to which the device is physically connected during Initial Setup. Any device may be connected to any compatible input and given any name (e.g., DVD or Game).

Most of the buttons on the remote have dedicated functions, although the precise codes transmitted vary, depending on the device mode. Due to the wide variety of functions for various source devices, only a few of the most-often used functions on the remote have been included: alphanumeric keys, transport controls, television-channel control, menu access, and power on and off.

REMOTE CONTROL FUNCTIONS

Buttons dedicated to the AVR are available at any time, even in another device mode: AVR Power On and Off, Audio Effects, Video Modes, Surround Modes, Volume, Mute and Sleep Settings. Press the AVR Settings Button near the bottom of the remote to return it to AVR mode.

A button's function depends on which component is being controlled. See Table in the Advanced Functions Manual for listings of the functions for each type of component.

IR Transmitter Lens: As buttons are pressed on the remote, infrared codes are emitted through this lens.

AVR Power On Button: Press to turn on the AVR. The Master Power Switch on the rear panel must be on.

AVR Power Off Button: Press to turn off the AVR.

Device Power On Button: Press a device's Source Selector, then press this button to turn on the device.

Device Power Off Button: Press a device's Source Selector, then press this button to turn off the device.

Source Selectors: Press one of these buttons to select a source device, e.g., Blu-ray Player, CS, Cable TV, DVD or satellite tuner. This will also turn on the receiver and switch the remote's device mode to operate the source. The first press of the Radio Selector switches the AVR to the last-used tuner band (AM or FM). Each successive press changes the band.

Audio Effects: Press to directly access the Audio Effects submenu, which allows adjustment of the AVR's tone and other audio controls. See the Initial Setup section for more information.

Video Modes: Press for direct access to the Video Modes submenu, which contains picture settings to be used after you have adjusted the picture settings on the video display or TV. See the Advanced Functions Manual for more information.

Surround Modes: Press to directly access the Surround Modes submenu. Select a Surround Mode category: Auto Select, Virtual Surround, Stereo, Movie, Music or Video Game. The surround mode will change when the menu line is highlighted.
To change the surround mode for the selected category, press the OK Button when the menu line is highlighted, and select one of the available surround mode options using the ▲▼ Buttons. Press the OK Button, or press the Back/Exit Button to exit the Surround Modes menu and display the next higher menu in the hierarchy.
See the Advanced Functions Manual for more information on surround modes.

Alphanumeric Keys: Use these buttons to enter numbers for radio station frequencies or channels, or to select station presets.

Last Channel: When controlling a cable, satellite or HDTV set-top box or a TV, press this button to return to the previous station or channel.

Activity: With this button, up to 11 Activities may be programmed to transmit a series of commands with a single press. Execute an Activity by pressing this button, then the Alphanumeric Key (or the AVR Power On or Off Button by themselves) into which it was programmed. See the Advanced Functions Manual for more information on Activities.

Back/Exit: Press to return to the previous menu or to exit the menu system.

Menu Button: This button is used within the Now Playing menu for the tuner, The Bridge III and to display the main menu on some source devices. To display the AVR's main menu, press the Setup Button.

Navigation (▲▼◀ ▶) and OK Buttons: These buttons are used to make selections within the menu system and to operate the tuner.

Light: Press to illuminate the buttons on the remote. Press it again to turn the back light off, or wait 10 seconds after the last button press for the light to turn off on its own.

Disc Menu: While a DVD is playing, press the DVD Source Selector, then this button, to display the disc's menu.

Soft Keys: These buttons are used with some source devices. See Table A14 in the Advanced Functions Manual for details. They are also used with a Teletext-capable television if your broadcast, cable or satellite provider offers Teletext service.

Volume Control: Press to raise or lower the volume.

Mute Button: Press to mute the AVR's speaker and headphone outputs. To end the muting, press this button, adjust the volume, or turn off the receiver.

Channel/Page Control: When the tuner has been selected, this control changes a preset radio station. While operating a cable, satellite or HDTV set-top box or a television, press these buttons to change channels.

Transport Controls: These buttons are used to control source playback and The Bridge III.

Record Button: Use this button to make recordings when an audio or video recorder is in use.

Setup Button: Press to display the AVR's Main Menu, or to switch the remote to AVR device mode.

Info Settings Button: Press to display the AVR's Info Menu, which contains the settings for the current source.

Sleep Settings Button: Press to activate the sleep timer, which turns off the receiver after a programmed period of time of up to 90 minutes. Each press decreases the timer by 10 minutes, ending with the "Sleep Off" message.

Zone Selector: Use this switch to select whether AVR commands will affect the main listening area (Zone 1) or the remote zone of a multizone system (Zone 2). For normal operation, leave the switch in the Zone 1 position.

Learn (AVR 460 only): The AVR remote is capable of "learning" individual IR codes from the original remote that came with a source device. See page 24 in the Installation section.

ZONE 2 REMOTE CONTROL (AVR 460 only)

The Zone 2 remote control is used in the remote zone of a multizone system with an IR receiver connected to the Zone 2 IR Input or an A-BUS device. It may be used to control the power, volume and mute functions or to select a source input for the remote zone, and to control a Harman Kardon source connected to one of the AVR's Remote IR Outputs or the A-BUS IR Output.

The Zone 2 remote may also be used in the main listening room to directly control the AVR 460 and Harman Kardon DVD, CD or tape players. When the Zone Selector is pressed to switch the remote to Zone 1 mode (the Zone Indicator will turn green), the power, volume and mute controls will only affect the main listening area. To control operation for the remote zone, press the Zone Selector so that the Zone Indicator turns red.

The Zone 2 remote requires two AAA batteries (included) that are installed in the battery compartment on the back of the remote. Make sure to observe proper polarity by matching the + and – symbols on the batteries to the symbols printed inside the compartment.

The following explanations describe the buttons that are not similar in function to the main remote control, or are found on the Zone 2 remote control only. For explanations of all other Zone 2 remote control functions, see the descriptions above that cover functions that are common to the two Remote Controls as well as functions available on the Main Remote Control only.

Power: Press to turn the AVR 460 on or off. The AVR also turns on its multizone system automatically when any of the Input Selectors is pressed, even if the AVR itself is in Standby mode. When in the main listening room, press any Input Selector or the AVR Selector to turn on the AVR 460.

Zone Selector and Zone Indicator: Each press of the Zone Selector determines whether the AVR commands will affect the main listening area (Zone 1) or the remote zone (Zone 2). The Zone Indicator will turn green when Zone 1 has been selected, and red for Zone 2. The Zone Indicator will also light briefly whenever any button is pressed.

ENGLISH

Instructions for users on removal and disposal of used batteries. Specification of included battery types.

These symbols shown on the product, the packaging or in the manual or separate information sheet mean that the product itself, as well as the batteries included or built into the product, should never be thrown away with general household waste. Take them to suitable collection points, where proper treatment, recycling and recovery take place, in accordance with national or local legislation, or European Directives 2002/96/EC and 2006/66/EC.

Correct handling of the product and batteries to be disposed of helps to save resources and prevents possible negative effects on the environment or human health.

The batteries included with your equipment may be Alkaline, Carbon Zinc/Manganese or Lithium (button cells) type. All types should be disposed of according to the above instructions.

To remove the batteries from your equipment or remote control, reverse the procedure described for inserting batteries in the Owners Manual.

For products with a built-in battery that lasts for the lifetime of the product, removal may not be possible for the user. In this case, recycling or recovery centers handle the dismantling of the product and the removal of the battery. If, for any reason, it becomes necessary to replace such a battery, this procedure must be performed by authorized service centers.

TROUBLESHOOTING GUIDE

SYMPTOM	CAUSE	SOLUTION
Unit does not function when Main Power Switch is turned on	• No AC Power	• Make certain AC power cord is plugged into a live outlet • Check whether outlet is switch-controlled
Display lights, but no sound or picture	• Intermittent input connections • Mute is on • Volume control is down	• Secure all input and speaker connections • Press Mute Button • Turn up volume control
No sound from any speaker; PROTECT message appears on front panel	• Amplifier is in protection mode due to possible short • Amplifier is in protection mode due to internal problems	• Check speaker wires for shorts at receiver and speaker ends • Contact your local Harman Kardon service center
No sound from surround or center speakers	• Incorrect surround mode • Input is monaural • Incorrect configuration • Stereo or Mono program material	• Select a mode other than Stereo • There is no surround information from mono sources • Check speaker configuration • The surround decoder may not create center- or rear-channel information from nonencoded programs
Unit does not respond to remote commands	• Weak batteries in remote • Wrong device selected • Remote sensor is obscured	• Change remote batteries • Press the Setup Button • Make certain front-panel sensor is in line of sight of remote or connect an optional remote sensor
Intermittent buzzing in tuner	• Local interference	• Move unit or antenna away from computers, fluorescent lights, motors or other electrical appliances
Surround Back Speaker settings cannot be accessed, and test tone does not play through Surround Back Speakers	• Multizone system has been turned on, and the surround back channels were reassigned to multizone operation	• Use the menu system to access the Zone 2 menu and reassign the surround back channels to the main room
Unable to activate Program mode on remote	• AVR Settings Button not held for at least 3 seconds	• The selector will light as you initially press it, and go dark as you hold it down. Continue to hold it and wait 3 seconds for the selector to light again
Remote buttons light, but AVR does not respond	• Remote is in Zone 2 mode	• Slide the Zone Switch at the bottom of the remote to the Zone 1 position

Additional information on troubleshooting possible problems with your AVR 460/AVR 360, or installation-related issues, may be found in the list of "Frequently Asked Questions", which is located in the Product Support section at www.harmankardon.com.

ENGLISH

PROCESSOR RESET

If the unit behaves erratically after a power surge, first turn off the Main Power Switch and unplug the AC power cord for at least 3 minutes. Plug the cord back in and turn the receiver on. If this doesn't help, reset the AVR.

NOTE: A system reset erases all user configurations, including video resolution, speaker and level settings, and tuner presets. After a reset, reenter all of these settings from your notes in the appendix worksheets.

To reset the AVR 460/AVR 360, place it in Standby mode (press the front-panel Standby/On Switch so that the Power Indicator turns amber). Then press the front-panel OK Button for at least 5 seconds until the RESET message appears.

If the receiver does not function correctly after a processor reset, contact an authorized Harman Kardon service center for assistance. Authorized service centers may be located by visiting the Web site at www.harmankardon.com.

NOTE: After performing a system reset, wait at least 1 minute before pressing any Source Selectors.

MEMORY

If the AVR 460/AVR 360 is unplugged or experiences a power outage, it will retain user settings for up to two weeks.

TECHNICAL SPECIFICATIONS

Audio Section

Stereo Mode, Continuous Average Power (FTC)
AVR 360: 50 Watts per channel, 20Hz - 20 kHz
AVR 460: 65 Watts per channel, 20Hz - 20 kHz
@ < 0.07% THD, both channels driven into 8 ohms

7 Channel Surround Modes
Power Per Individual Channel, with all channels driven

Front L&R channels:
AVR 360: 50 Watts per channel
AVR 460: 65 Watts per channel
@ < 0.07% THD, 20Hz–20kHz into 8 ohms

Center channel:
AVR 360: 50 Watts
AVR 460: 65 Watts
@ < 0.07% THD, 20Hz–20kHz into 8 ohms

Surround (L & R Side, Back) channels:
AVR 360: 50 Watts per channel
AVR 460: 65 Watts per channel
@ < 0.07% THD, 20Hz–20kHz into 8 ohms

Input Sensitivity/Impedance	
Linear (High-Level)	200mV/47k ohms
Signal-to-Noise Ratio (IHF-A)	100dB
Surround System Adjacent Channel Separation	
Analog Decoding (Pro Logic, etc.)	40dB
Dolby Digital (AC-3)	55dB
DTS	55dB
Frequency Response	
@ 1W (+0dB, –3dB)	10Hz –130kHz
High Instantaneous Current Capability (HCC)	±35 Amps
Transient Intermodulation Distortion (TIM)	Unmeasurable
Rise Time	16µsec
Slew Rate	40V/µsec

FM Tuner Section

Frequency Range	87.5–108.0MHz
Usable Sensitivity	IHF 1.3µV/13.2dBf
Signal-to-Noise Ratio	Mono/Stereo 70/68dB (DIN)
Distortion	Mono/Stereo 0.2/0.3%
Stereo Separation	40dB @ 1kHz
Selectivity	±400kHz: 70dB
Image Rejection	80dB
IF Rejection	90dB

AM Tuner Section

Frequency Range	522–1620kHz
Signal-to-Noise Ratio	45dB
Usable Sensitivity	Loop 500µV
Distortion	1kHz, 50% Mod 0.8%
Selectivity	±10kHz, 30dB

Please register your AVR 460/AVR 360 at www.harmankardon.com.

NOTE: You'll need the product's serial number. At the same time, you can choose to be notified about new products and/or special promotions.

Video Section

Television Format	PAL
Input Level/Impedance	1Vp-p/75 ohms
Output Level/Impedance	1Vp-p/75 ohms
Video Frequency Response (Composite)	10Hz–8MHz (–3dB)
Video Frequency Response (Component Video)	10Hz–100MHz (–3dB)
HDMI™	Version 1.3a with 10-bit Deep Color

General

Power Requirement	AC 230-240V/50Hz
Power Consumption	AVR 360: Standby < 1W, 540W maximum
	AVR 460: Standby < 3W, 890W maximum
	(7 channels driven)
Dimensions (Max)	
Width	440mm
Height	165mm
Depth	382mm
Weight net	AVR 360 : 14,0 kg
	AVR 460 : 14,4 kg

Depth measurement includes knobs, buttons and terminal connections.

Height measurement includes feet and chassis.

Features, specifications and appearance are subject to change without notice.

Harman Kardon and Logic 7 are trademarks of Harman International Industries, Incorporated, registered in the United States and/or other countries. EzSet/EQ, Designed to Entertain and The Bridge III logo are trademarks of Harman International Industries, Incorporated.

Apple, iPod, iPhone, iTunes and Macintosh are trademarks of Apple Inc., registered in the U.S. and other countries. iPod not included. "Made for iPod" means that an electronic accessory has been designed to connect specifically to iPod and has been certified by the developer to meet Apple performance standards. Apple is not responsible for the operation of this device or its compliance with safety and regulatory standards.

A-BUS is a registered trademark of Leisure Tech Electronics Pty Ltd.

Audiovox is a registered trademark of Audiovox Corporation.

Blu-ray Disc is a trademark of the Blu-ray Disc Association.

CEA is a registered trademark of the Consumer Electronics Association.

Manufactured under license from Dolby Laboratories. Dolby, the double-D symbol and Pro Logic are registered trademarks of Dolby Laboratories. MLP Lossless is a trademark of Dolby Laboratories.

Manufactured under license under U.S. Patent #'s 5,451,942; 5,956,674; 5,974,380; 5,978,762; 6,226,616; 6,487,535; 7,212,872; 7,333,929; 7,392,195; 7,272,567 and other U.S. and worldwide patents issued and pending. DTS is a registered trademark and the DTS logos, Symbol, DTS-HD and DTS-HD Master Audio are trademarks of DTS, Inc. © 1996-2008 DTS, Inc. All Rights Reserved.

EyeConnect is a trademark of Elgato Systems.

Faroudja DCDi Cinema is a trademark of Genesis Microchip Inc.

HD-DVD is a trademark of the DVD Format/Logo Licensing Corporation (DVD FLLC).

HDMI, the HDMI logo and High-Definition Multimedia Interface are trademarks or registered trademarks of HDMI Licensing LLC.

Intel is a trademark of Intel Corporation in the U.S. and other countries.

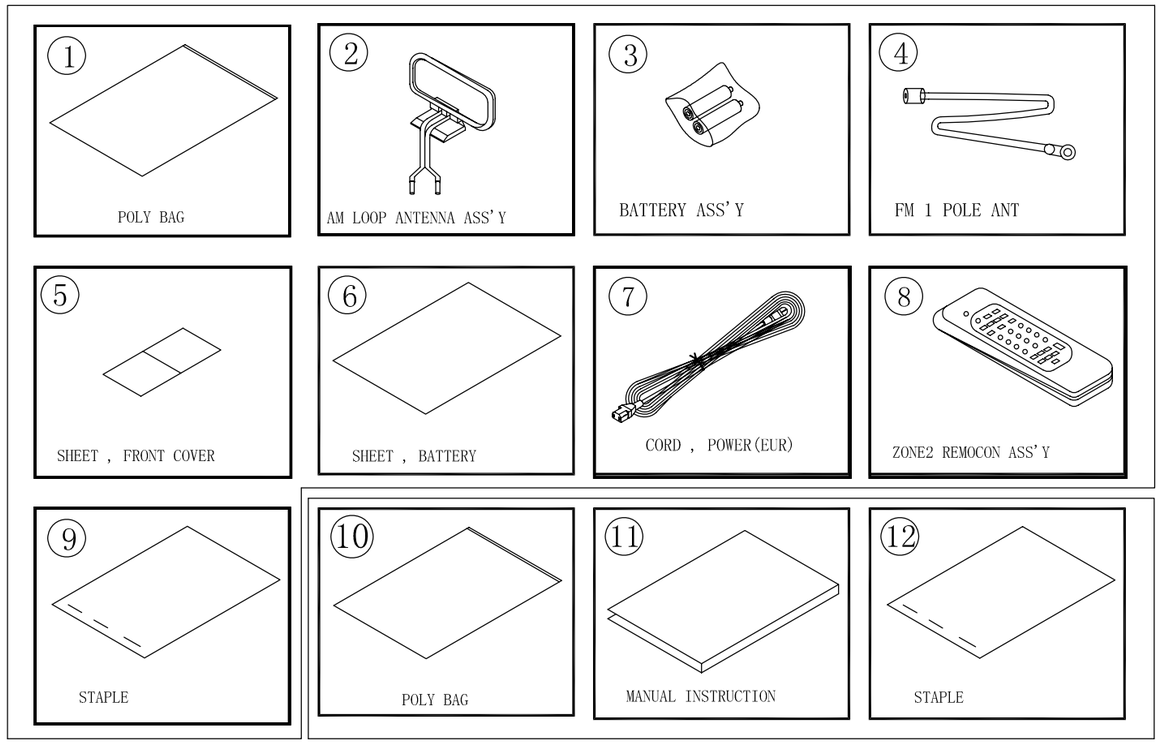
SACD is a trademark of Sony Corporation.

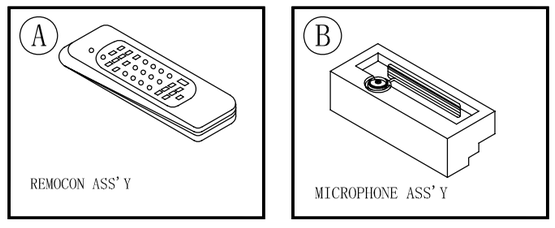
TiVo is a registered trademark of TiVo Inc.

Windows Media is a registered trademark of Microsoft Corporation in the United States and/or other countries.

ENGLISH

1. Instruction manual ass'y - Accessories



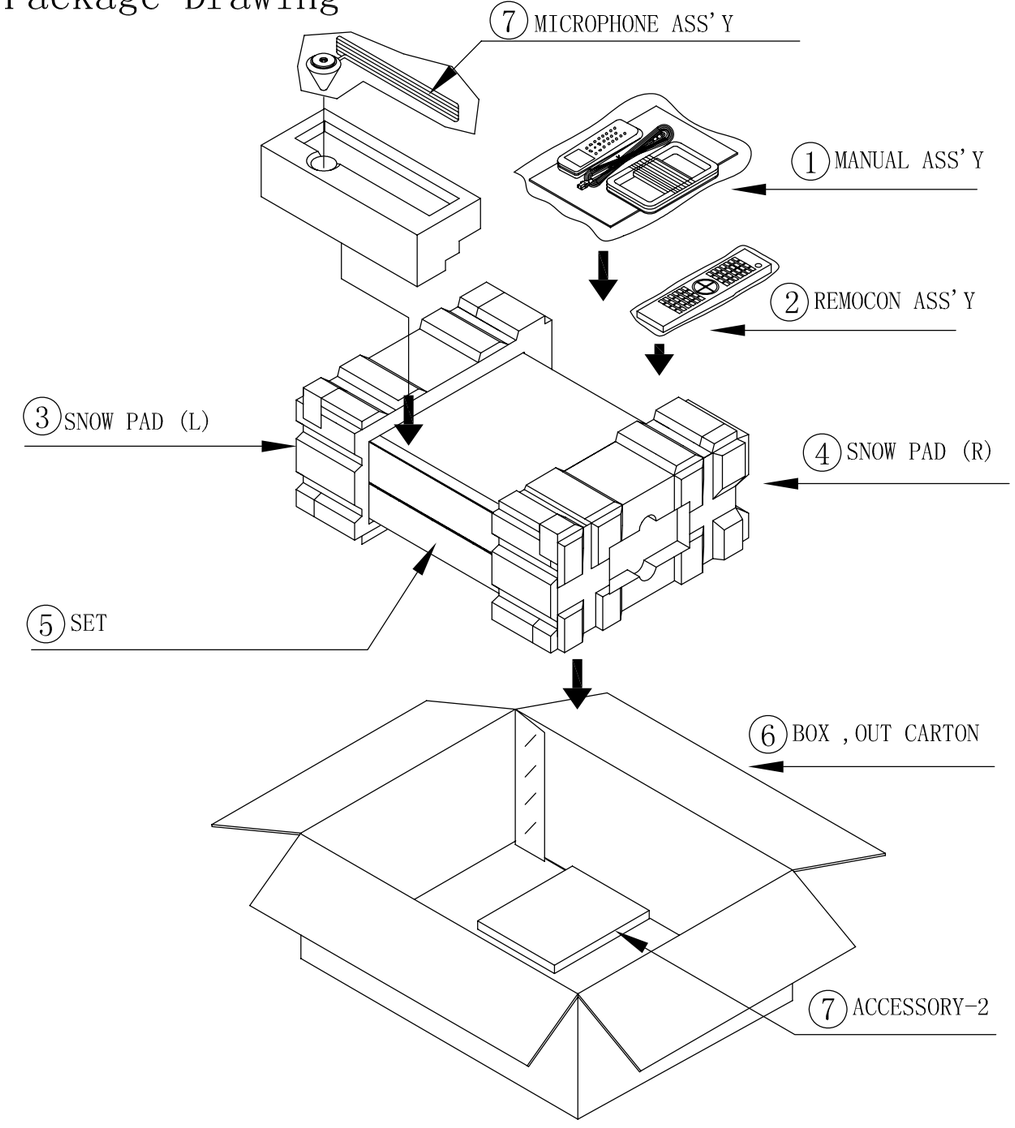


ACCESSORY-1			
NO	DESCRIPTION	PARTS NO.	Q,ty
1	POLY BAG	CPB1061W	1
2	ANT , AM LOOP	CSA1A032Z	1
3	BATTERY , AAA	CABR03PPB	2
4	FM 1 POL ANT	CSA1A018Z	1
5	SHEET , FRONT COVER	CQE1A220Z	1
6	SHEET , BATTERY	CQE1A411Z	1
7	CORD , POWER	CJA2B054Z	1
8	ZONE2 REMOCON ASS'Y	CARTZR60HKM	1
9	STAPLE	CPL0905	3

ACCESSORY-2			
NO	DESCRIPTION	PARTS NO.	Q,ty
10	POLY BAG	CPB1061W	1
11	MANUAL, INSTRUCTION	CQX1A1433Z	1
12	STAPLE	CPL0905	3

A	REMOCON ASS'Y(57KEY)	CARTAVR460E-HK	1
B	MICROPHONE ASS'T	CJXAVR340MICRO	1

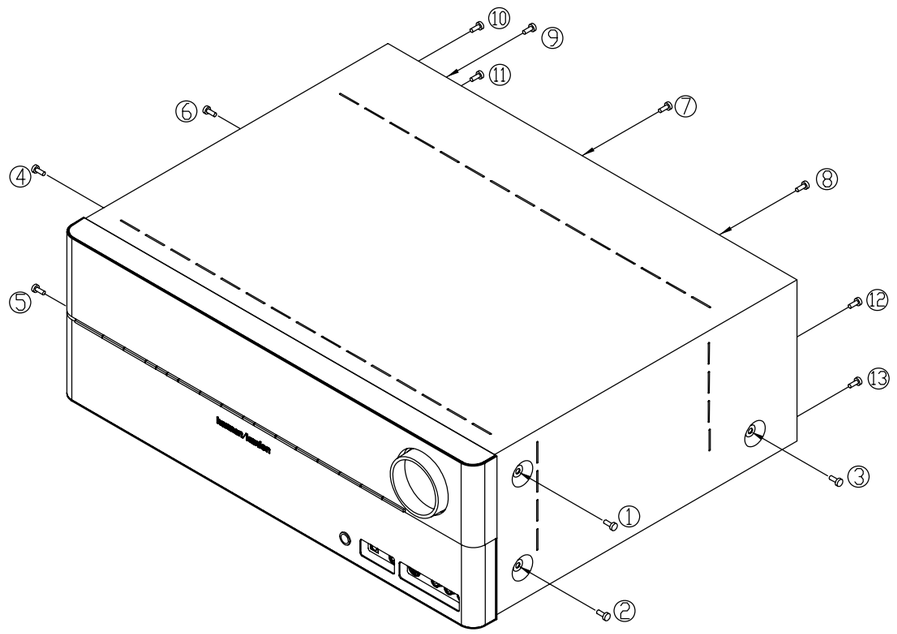
2. Package Drawing



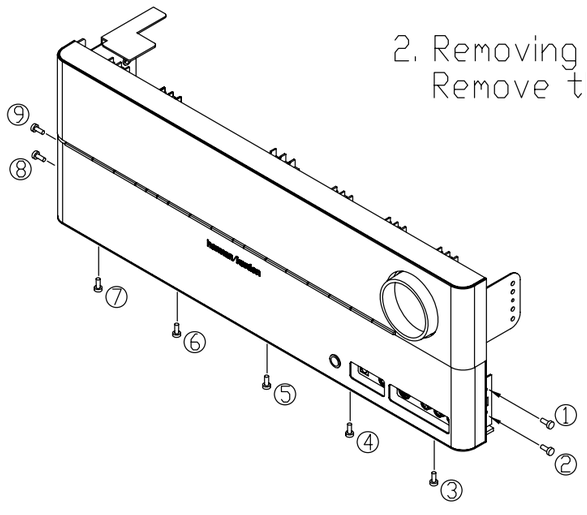
NO	DESCRIPTION	PARTS NO.	Q,ty
1	ACCESSORY-1	CQXAVR460/240	1
2	REMOCON ASS'Y (57KEY)	CARTAVR460E-HK	1
3	SNOW,PAD(L)	CPS5A564Z	1
4	SNOW,PAD(R)	CPS5A565Z	1
5	SET	AVR460/240SET	1
6	BOX,OUT CARTON	CPG1A891T	1
7	ACCESSORY-2	CQXAVR460E-HK	1
8	MICROPHONE ASS'Y	CJXAVR340MICRO	1

DISASSEMBLY

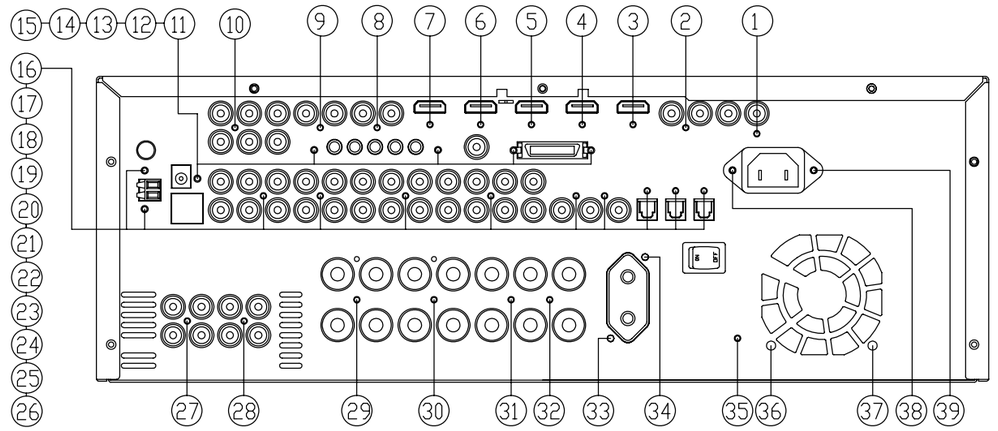
1. Removing the Top Cabinet
Remove the Screws ①~⑬



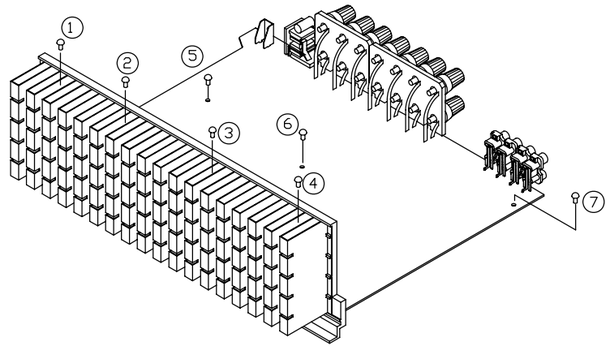
2. Removing the Front Panel
Remove the Screws ①~⑨



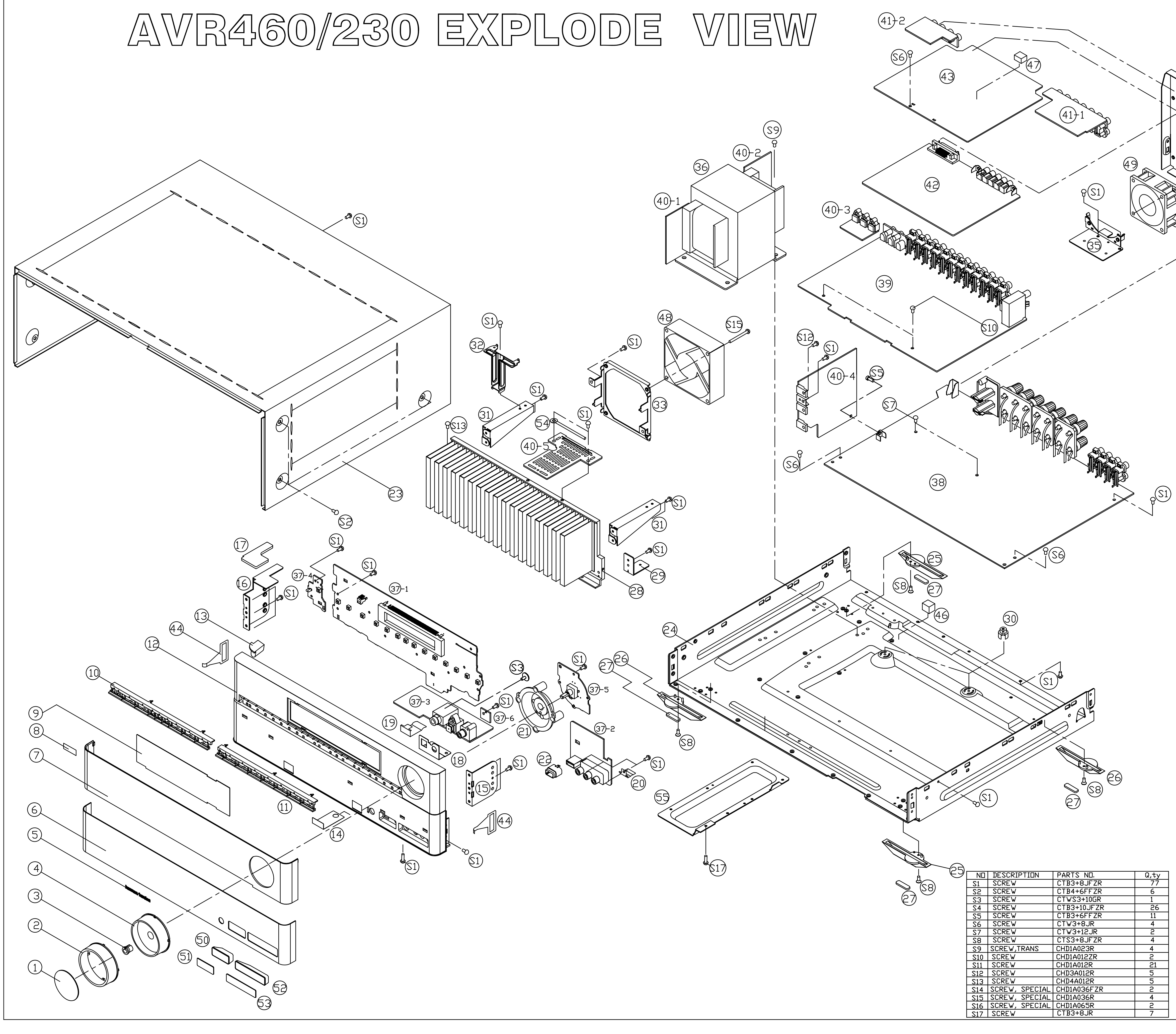
3. Removing the Rear Panel
Remove the Screws ①~㊴



4. Removing the Main PCB
Remove the Screws ①~⑦



AVR460/230 EXPLODE VIEW



NO	DESCRIPTION	PARTS NO.	Q,ty	REMARK
1	ORNAMENT,VOLUME	CGU1A318Y	1	
2	CAP,VOLUME	CGX1A338MBC63	1	
3	HOLDER,VOLUME	CMH1A214	1	
4	INDICATOR,VOLUME	CGL1A222	1	
5	BADGE, HARMAN/KARDON	CGB1A158Y	1	
6	SHEET,AL FRONT	CGX2A390C66S	1	
7	WINDOW , FIP	CGU1A410A25M	1	
8	BADGE,AVR3600	CGB1A224Z	1	
9	FILTER , FIP	CMZ1A127	1	
10	KNOB , STANDBY	CBT2A1064	1	
11	KNOB , TUNING	CBT2A1065	1	
12	PANEL , FRONT	CGW3A447RHWB24	1	
13	INDICATOR , POWER	CGL1A265Y		
14	PLATE , EARTH	CMC2A338	1	
15	BRACKET , SIDE	CMD2A443	1	
16	BRACKET , SIDE L	CMD1A555	1	
17	RUBBER	CHG1A309	1	
18	PLATE , SHIELD	CMC2A323	1	
19	PLATE , EARTH	CMC2A325	1	
20	PLATE,EARTH	CMC2A326	3	
21	HOLDER , LED	CMH2A215	1	
22	HOLDER , USB	CMH1A297	1	
23	CABINET,TOP	CKC6B145S60	1	
24	CHASSIS,BOTTOM	CUA1A294	1	
25	FOOT A	CKL1A094	2	
26	FOOT B	CKL1A095	2	
27	CUSHION , FOOT	CHG1A373	4	
28	HEAT SINK	CMY2A314	1	
29	BRACKET,PCB	CMD1A417	2	
30	HOLDER,PCB	CHE170	2	
31	BRACKET,PCB(H/T)	CMD1A398	2	
32	BRACKET,PCB(HDMI)	CMD2A636	1	
33	BRACKET,FAN	CMD1A694	1	
34	PANEL,REAR	CKF6A398Z	1	
35	BRACKET,FAN	CMD1A506	1	
36	TRANS,POWER	CLT5W038ZW	1	
37	FRONT PCB ASS'Y	COP12168G	1	
		37-1 FIP & KEY PCB	1	
		37-2 VIDEO PCB	1	
		37-3 PHONE PCB	1	
		37-4 POWER LED PCB	1	
		37-5 VOLUME PCB	1	
		37-6 GUIDE PCB	1	
			1	
			1	
38	MAIN PCB ASS'Y	COP12170G	1	
39	INPUT PCB ASS'Y	COP12177G	1	
40	POWER PCB ASS'Y	COP12172G	1	
		40-1 TRANS PCB	1	
		40-2 TRANS PCB	1	
		40-3 OPTICAL IN PCB	1	
		40-4 REGULATOR PCB	1	
		40-5 GUIDE PCB	1	
		40-6 DC POWER PCB	1	
41	VIDEO PCB ASS'Y	COP12175D	1	
42	USB IPOD PAC ASS'Y	COP12169G	1	
43	HDMI PCB ASS'Y	COP12179C	1	
44	PLATE , SHIELD	CMC1A372	2	
45	MOMS S/W ASS'Y	CSH1A009ZVB	1	
46	CUSHION	CHG1A160Z	1	
47	SUPPORT,CUSHION	CHG1A104Z	1	
48	FAN , MOTOR	CFNCF12825HSN	1	
49	FAN , MOTOR	CFNCF12625SA	1	
50	COVER , JACK A	CGR3A436	1	
51	COVER , JACK B	CGR3A437	1	
52	ORNAMENT , AL A	CGX1A391C66	1	
53	ORNAMENT , AL B	CGX1A392C66	1	
54	CLAMPER , WIRE	CHE36-3	1	
55	FRAME , BOTTOM	CMD1A702	1	
56	INLET ASS'Y	CJJ8A006ZWA	1	

NO	DESCRIPTION	PARTS NO.	Q,ty
S1	SCREW	CTB3+8JFZR	77
S2	SCREW	CTB4+6FFZR	6
S3	SCREW	CTWS3+10GR	1
S4	SCREW	CTB3+10JFZR	26
S5	SCREW	CTB3+6FFZR	11
S6	SCREW	CTW3+8JR	4
S7	SCREW	CTW3+12JR	2
S8	SCREW	CTS3+8JFZR	4
S9	SCREW,TRANS	CHD1A023R	4
S10	SCREW	CHD1A012ZR	2
S11	SCREW	CHD1A012R	21
S12	SCREW	CHD3A012R	5
S13	SCREW	CHD4A012R	5
S14	SCREW, SPECIAL	CHD1A036FZR	2
S15	SCREW, SPECIAL	CHD1A036R	4
S16	SCREW, SPECIAL	CHD1A065R	2
S17	SCREW	CTB3+8JR	7

AVR460/230 Electrical & Mechanical Parts List

Level	Ref. #	Part Number	Description	Drawing No (Value)	Qty
0,2		CGB1A224Z	BADGE , AVR460		1
0,2		CGL1A222	INDICATOR , VOLUME	AVR130/230/330	1
0,2		CGR3A436	COVER , JACK A		1
0,2		CGR3A437	COVER , JACK B		1
0,2		CGU1A318Y	ORNAMENT , VOLUME AVR255		1
0,2		CGU1A410A25M	WINDOW , FIP		1
0,2		CGX1A338MBC63	CAP , VOLUME		1
0,2		CGX1A391C66	ORNAMENT , AL A AVR350		1
0,2		CGX1A392C66	ORNAMENT , AL B AVR350		1
0,2		CGX2A390C66S	SHEET , AL FRONT		1
0,2		CKC6B145S60	CABINET , TOP AVR350		1
0,2		CMH1A214	HOLDER , VOLUME	AVR130/230/330	1
0,2		CMZ2A090	SHEET , VOLUME		1
0,2		CQB1A549Y	LABEL , ATTENTION DVD48		1
0,2		CQB1A622	LABEL , SERIAL NO		1
0,2		CTB3+8JFZR	SCREW		17
0,2		CTB4+6FFZR	SCREW		6
1		CARTAVR460E-HK	REMOCON ASS'Y (59KEY)	AVR460	1
1		CHE154	CLAMPER , ARM		0,12
1		CJXAVR340MICRO	MICRO PHONE ASS'Y		1
1		CPG1A891T	BOX , OUT CARTON		1
1		CPS5A564Z	PAD , SNOW L AVR155		1
1		CPS5A565Z	PAD , SNOW R AVR155		1
1		CQB1A907Z	LABEL , BAR CODE AVR154		1
1		CQB1A928Z	LABEL , MADE IN PRC		2
1		CQS1A001	RIBON , BAR CODE	SONY(TR-4070)	0,12
1		CQXAVR460/240	INSTRUCTION MANUAL ASS'Y		1
0,2		CABR03PPB	BATTERY , AAA 2PCS IN PACK		2
0,2		CARTZR60HKM	ZONE2 REMOCON ASS'Y (31KEY)	ZR60	1
0,2		CJA2B054Z	CORD , POWER(DETACHABLE/EUR)	2WIRE 10A/250V	1
0,2		CQB1A971	LABEL , BAR CODE(MANUAL)		1
0,2		CQE1A220Z	SHEET , FRONT COVER	AVR130/230BK	1
0,2		CQE1A411Z	SHEET , BATTERY HARMAN		1
0,2		CQX1A1434Z	MANUAL , INSTRUCTION		1
0,2		CSA1A018Z	FM 1 POLE ANT		1
0,2		CSA1A032Z	ANT , AM LOOP		1
1		CRE1A037	LOCKER	SH08M790BO	14

FRONT PANEL ASSY

Level	Ref. #	Part Number	Description	Drawing No (Value)	Qty
0,2		**CGWAVR460/240**	**FRONT PANEL ASS'Y**		**1**
..3		CBT2A1064	KNOB , STANDBY		1
..3		CBT2A1065	KNOB , BACK		1
..3		CGB1A158Y	BADGE , FRONT HARMAN/KARDON		1
..3		CGL1A265Y	INDICATOR , POWER AVR155		1
..3		CGW3A447RHWB24	PANEL , FRONT		1
..3		CHG1A309	RUBBER		1
..3		CHR301	CLAMPER		6
..3		CMC1A372	PLATE , SHIELD		2
..3		CMC2A323	PLATE , SHIELD		1
..3		CMC2A326	PLATE , EARTH AVR350		2
..3		CMC2A338	PLATE , EARTH AVR350		2
..3		CMD1A555	BRACKET , SIDE (L)		1
..3		CMD2A443	BRACKET , SIDE		1
..3		CMH1A297	HOLDER , USB		1
..3		CMH2A215	HOLDER , LED AVR350		1
..3		CMZ1A127	FILTER , FIP AVR255		1
..3		CPE1A009	SHEET , BLIND		1
..3		CTB3+8JFZR	SCREW		28
..3		CTWS3+10GR	SCREW		1
..3	CB72	CWC4C4A31B250B08	CARD , CABLE (31p,1.25mm,250mm,08mm)		1

BOTTOM CHASSIS ASS'Y

Level	Ref. #	Part Number	Description	Drawing No (Value)	Qty
0,2		**CUAAVR460/240**	**BOTTOM CHASSIS ASS'Y**		**1**
..3		CFNCF12625SA	MOTOR , FAN(60X60X25MM)		1
..3		CHD1A012ZR	SCREW , SPECIAL		2
..3		CHD1A023R	SCREW , SPECIAL		4
..3		CHD1A036FZR	SCREW , SPECIAL		2
..3		CHD1A065R	SCREW , FLAT(2.6X4)		2
..3		CHD4A012R	SCREW , SPECIAL		5
..3		CHE170	HOLDER , PCB		2
..3		CHE36-3	CLAMPER , WIRE		1
..3		CHG1A104Z	CUSHUON , RUBBER		2
..3		CHG1A113	RUBBER		3
..3		CHG1A160Z	CUSHION , RUBBER		1
..3		CHG1A373	CUSHION , FOOT AVR350		4
..3		CHG1A462	CUSHION , RUBBER		1
..3		CHS1A032	TAPE , HEMELON		4
..3		CKF6A398Z	PANEL , REAR		1
..3		CKL1A094	FOOT , A AVR350		2
..3		CKL1A095	FOOT , B AVR350		2
..3		CMD1A506	BRACKET , FAN	AVR330/AVR4600	1
..3		CMD1A702	FRAME , BOTTOM		1
..3		CMD2A636	BRACKET , PCB		1
..3		CTB3+10JFZR	SCREW		24
..3		CTB3+6FFZR	SCREW		10
..3		CTB3+8JFZR	SCREW		12
..3		CTB3+8JR	SCREW		7
..3		CTS3+8JFZR	SCREW		4
..3		CTW3+12JR	SCREW		2
..3		CUA1A294	CHASSIS , BOTTOM		1

BOTTOM CHASSIS ASS'Y

Level	Ref. #	Part Number	Description	Drawing No (Value)	Qty
..3	BN90	CSH1A009ZVB	SWITCH , MOMS WIRE ASS'Y (2P, 80MM, RED)		1
...4		CSH1A009ZV	SWITCH , MOMS		1
...4		CWB4F202080UK	WIRE ASS'Y (3.96MM, 80MM, 2P, RED)		1
..3	BN92	CJJ8A006ZWA	RECEPTACLE(AC) WIRE ASS'Y (2P, 120MM, RD/BK)		1
...4		CJJ8A006ZW	RECEPTACLE , AC(15A/250V,R-301,B21)	R-301(B21)	1
...4		CWB4F002120UK	WIRE ASS'Y (3.96MM, 120MM, 2P, RD/BK)		1
..3	CB12	CWC4C4A27B100B10	CARD , CABLE (27p,1.25mm Pitch,100mm Length,Protec		1
..3	CB15	CWC4F2A17A100B10	CARD , CABLE (17P,1.0mm Pitch,100mm Length,Protect		1
..3	F901	KBA2C6300TLEY	FUSE(218 Series, 250V, 6.3A)		1
..3	T901	CLT5W038ZW	TRANS , POWER (AC240V/50Hz)		1

FRONT PCB ASSY

Level	Ref. #	Part Number	Description	Drawing No (Value)	Qty
..3		**COP12168G**	**AVR460 FRONT PCB ASS'Y**		**1**
....5	C121	CCBS1H151KBT	CAP , CERAMIC(150PF/50V)	CH UP025 B151K-A-B Z	1
....5	C122	CCEA1AH331T	CAP , ELECT	330UF 10V	1
....5	C151	CCBS1H473ZFT	CAP , CERAMIC(47000PF/50V)	CH UP025 F473Z-A-B J	1
....5	C152	CCEA1CKS100T	CAP , ELECT	10UF 16V	1
....5	C161	CCBS1H104ZFT	CAP , CERAMIC	0.1UF 50V Z	1
....5	C213	CCBS1H223ZFT	CAP , CERAMIC(22000PF/50V)	CH UP025 F223Z-A-B J	1
....5	C214	CCBS1H223ZFT	CAP , CERAMIC(22000PF/50V)	CH UP025 F223Z-A-B J	1
....5	C252	CCEA1HKS2R2T	CAP , ELECT	2.2UF 50V SMALL SIZE	1
....5	C311	CCBS1H102KBT	CAP , CERAMIC(1000PF/50V)	CH UP025 B102K-A-B Z	1
....5	C322	CCBS1H102KBT	CAP , CERAMIC(1000PF/50V)	CH UP025 B102K-A-B Z	1
....5	C412	CCBS1H103ZFT	CAP , CERAMIC	0.01UF 50V Z	1
....5	C413	CCEA1JH470TS	CAP , ELECT	63V/47UF/105'C	1
....5	C414	CCEA1JH470TS	CAP , ELECT	63V/47UF/105'C	1
....5	C415	CCBS1H103ZFT	CAP , CERAMIC	0.01UF 50V Z	1
....5	C422	CCEA1HH4R7T	CAP , ELECT	4.7UF 50V	1
....5	C431	CCBS1H104ZFT	CAP , CERAMIC	0.1UF 50V Z	1
....5	C441	CCBS1H223ZFT	CAP , CERAMIC(22000PF/50V)	CH UP025 F223Z-A-B J	1
....5	C442	CCBS1H223ZFT	CAP , CERAMIC(22000PF/50V)	CH UP025 F223Z-A-B J	1
....5	C503	CCBS1H104ZFT	CAP , CERAMIC	0.1UF 50V Z	1
....5	C504	CCBS1H103ZFT	CAP , CERAMIC	0.01UF 50V Z	1
....5	C511	CCBS1H560JT	CAP , CERAMIC(56PF/50V)	CH UP025SL560J-A-B Z	1
....5	C512	CCBS1H560JT	CAP , CERAMIC(56PF/50V)	CH UP025SL560J-A-B Z	1
....5	C521	CCEA1AH101T	CAP , ELECT	100UF 10V	1
....5	C522	CCBS1H103ZFT	CAP , CERAMIC	0.01UF 50V Z	1
....5	C531	CCBS1H104ZFT	CAP , CERAMIC	0.1UF 50V Z	1
....5	C533	CCBS1H104ZFT	CAP , CERAMIC	0.1UF 50V Z	1
....5	C541	CCBS1H101KBT	CAP , CERAMIC(100PF/50V)	CH UP025 B101K-A-B Z	1
....5	C542	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C553	CCBS1H471KBT	CAP , CERAMIC(470PF/50V)	CH UP025 B471K-A-B Z	1
....5	C554	CCBS1H471KBT	CAP , CERAMIC(470PF/50V)	CH UP025 B471K-A-B Z	1
....5	C601	CCBS1H181KBT	CAP , CERAMIC(180PF/50V)	CH UP025 B181K-A-B Z	1
....5	C602	CCBS1H104ZFT	CAP , CERAMIC	0.1UF 50V Z	1
....5	C603	CCBS1H100JCT	CAP , CERAMIC(10PF/50V)	CH UP025CH100J-A-B Z	1
....5	C611	CCEA1AH471T	CAP , ELECT	470UF 10V	1
....5	C612	CCBS1H104ZFT	CAP , CERAMIC	0.1UF 50V Z	1
....5	C631	CCBS1H104ZFT	CAP , CERAMIC	0.1UF 50V Z	1
....5	C633	CCBS1H104ZFT	CAP , CERAMIC	0.1UF 50V Z	1
....5	C651	CCBS1H104ZFT	CAP , CERAMIC	0.1UF 50V Z	1
....5	C652	CCBS1H681KBT	CAP , CERAMIC(680PF/50V)	CH UP025 B681K-A-B Z	1
....5	C653	CCBS1H681KBT	CAP , CERAMIC(680PF/50V)	CH UP025 B681K-A-B Z	1
....5	C714	CCBS1H223ZFT	CAP , CERAMIC(22000PF/50V)	CH UP025 F223Z-A-B J	1
....5	C715	CCEA1CKS100T	CAP , ELECT	10UF 16V	1
....5	C721	CCEA1HKS2R2T	CAP , ELECT	2.2UF 50V SMALL SIZE	1
....5	C731	CCEA1AH471T	CAP , ELECT	470UF 10V	1
....5	C732	CCBS1H104ZFT	CAP , CERAMIC	0.1UF 50V Z	1
....5	C751	CCBS1C222MXT	CAP , CERAMIC(2200PF/16V)	CH EP025 B222M-A-B J	1
....5	C752	CCBS1H102KBT	CAP , CERAMIC(1000PF/50V)	CH UP025 B102K-A-B Z	1
....5	C753	CCBS1H102KBT	CAP , CERAMIC(1000PF/50V)	CH UP025 B102K-A-B Z	1
....5	C754	CCBS1H104ZFT	CAP , CERAMIC	0.1UF 50V Z	1
....5	C801	CCEA1EH470T	CAP , ELECT	47UF 25V	1
....5	C802	CCEA1EH470T	CAP , ELECT	47UF 25V	1
....5	C811	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C813	CCBS1H470JT	CAP , CERAMIC(47PF/50V)	CH UP025SL470J-A-B Z	1
....5	C821	CCBS1H471KBT	CAP , CERAMIC(470PF/50V)	CH UP025 B471K-A-B Z	1
....5	C822	CCBS1H151KBT	CAP , CERAMIC(150PF/50V)	CH UP025 B151K-A-B Z	1
....5	C823	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C830	CCBS1H473ZFT	CAP , CERAMIC(47000PF/50V)	CH UP025 F473Z-A-B J	1
....5	C901	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C902	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C911	CCEA1EH470T	CAP , ELECT	47UF 25V	1
....5	C912	CCEA1EH470T	CAP , ELECT	47UF 25V	1
....5	C923	CCBS1H681KBT	CAP , CERAMIC(680PF/50V)	CH UP025 B681K-A-B Z	1
....5	C924	CCBS1H681KBT	CAP , CERAMIC(680PF/50V)	CH UP025 B681K-A-B Z	1
....5	C931	CCEA1CH331T	CAP , ELECT	330UF 16V	1
....5	C932	CCEA1CH331T	CAP , ELECT	330UF 16V	1
....5	D161	HVD1N5819T	DIODE , SCHOTTKY	1N5819	1
....5	D401	CVD1N4003ST	DIODE , RECT	1N4003	1
....5	D412	HVDMTZJ6.8BT	DIODE , ZENER	MTZJ6.8B 1/2W	1
....5	D413	HVDMTZJ27BT	DIODE , ZENER	MTZJ27B 1/2W	1
....5	D421	HVDMTZJ6.8BT	DIODE , ZENER	MTZJ6.8B 1/2W	1
....5	D422	HVDMTZJ6.8BT	DIODE , ZENER	MTZJ6.8B 1/2W	1
....5	D455	CVD1SS133MT	DIODE	1SS133	1
....5	D531	CVD1SS133MT	DIODE	1SS133	1
....5	D534	CVD1SS133MT	DIODE	1SS133	1
....5	D631	CVD1SS133MT	DIODE	1SS133	1
....5	D632	CVD1SS133MT	DIODE	1SS133	1
....5	D633	CVD1SS133MT	DIODE	1SS133	1
....5	D634	CVD1SS133MT	DIODE	1SS133	1
....5	L151	HLQ02C100KT	COIL , AXAIL (10UH)		1

FRONT PCB ASSY					
Level	Ref. #	Part Number	Description	Drawing No (Value)	Qty
....5	Q104	CVTKTC1027YT	T.R		1
....5	Q111	HVTKRA107MT	T.R	KRA107M	1
....5	Q112	HVTKRC107MT	T.R	KRC107M	1
....5	Q113	HVTKRC107MT	T.R	KRC107M	1
....5	Q251	HVTKTA1271YT	T.R	KTA1271Y	1
....5	Q252	HVTKRC107MT	T.R	KRC107M	1
....5	Q721	HVTKRC107MT	T.R	KRC107M	1
....5	Q941	HVTKTC2874BT	T.R , MUTE	KTC2874B	1
....5	Q942	HVTKTC2874BT	T.R , MUTE	KTC2874B	1
....5	Q943	HVTKTC2874BT	T.R , MUTE	KTC2874B	1
....5	Q944	HVTKTC2874BT	T.R , MUTE	KTC2874B	1
....5	Q951	HVTKRC107MT	T.R	KRC107M	1
....5	Q952	HVTKRA107MT	T.R	KRA107M	1
....5	Q954	HVTKRC107MT	T.R	KRC107M	1
....5	R101	CRD20TF2200T	RES , CARBON(220 OHM, 1%)		1
....5	R102	CRD20TF6800T	RES , CARBON(680 OHM, 1%)		1
....5	R113	CRD20TJ102T	RES , CARBON	1K OHM 1/5W J	1
....5	R121	CRD20TJ473T	RES , CARBON	47K OHM 1/5W J	1
....5	R122	CRD20TJ100T	RES , CARBON	10 OHM 1/5W J	1
....5	R201	CRD20TJ101T	RES , CARBON(1/5W,100,5%)	100 OHM 1/5W J	1
....5	R202	CRD20TJ101T	RES , CARBON(1/5W,100,5%)	100 OHM 1/5W J	1
....5	R203	CRD20TJ101T	RES , CARBON(1/5W,100,5%)	100 OHM 1/5W J	1
....5	R211	CRD20TJ101T	RES , CARBON(1/5W,100,5%)	100 OHM 1/5W J	1
....5	R213	CRD20TJ272T	RES , CARBON	2.7K OHM 1/5W J	1
....5	R214	CRD20TJ272T	RES , CARBON	2.7K OHM 1/5W J	1
....5	R251	CRD20TJ222T	RES , CARBON	2.2K OHM 1/5W J	1
....5	R252	CRD25TJ393T	RES , CARBON (39K OHM)		1
....5	R312	CRD20TF1001T	RES , CARBON	1K /1/5W /F	1
....5	R313	CRD20TF1501T	RES , CARBON	1.5K /1/5W /F	1
....5	R314	CRD20TF1801T	RES , CARBON	1.8K /1/5W /F	1
....5	R315	CRD20TF2701T	RES , CARBON	2.7K /1/5W/F	1
....5	R316	CRD20TF3301T	RES , CARBON	3.3K /1/5W/F	1
....5	R322	CRD20TF1001T	RES , CARBON	1K /1/5W /F	1
....5	R323	CRD20TF1501T	RES , CARBON	1.5K /1/5W /F	1
....5	R324	CRD20TF1801T	RES , CARBON	1.8K /1/5W /F	1
....5	R325	CRD20TF2701T	RES , CARBON	2.7K /1/5W/F	1
....5	R326	CRD20TF3301T	RES , CARBON	3.3K /1/5W/F	1
....5	R327	CRD20TF5601T	RES , CARBON(5.6K/F)		1
....5	R328	CRD20TF5601T	RES , CARBON(5.6K/F)		1
....5	R401	CRD25FJ3R3T	RES , CARBON	3.3 OHM 1/4W J	1
....5	R402	CRD25TJ4R7T	RES , CARBON (4.7 OHM)		1
....5	R403	CRD20TJ100T	RES , CARBON	10 OHM 1/5W J	1
....5	R404	CRD25TJ4R7T	RES , CARBON (4.7 OHM)		1
....5	R411	CRD20TJ104T	RES , CARBON	100K OHM 1/5W J	1
....5	R412	CRD20TJ122T	RES , CARBON	1.2K OHM 1/5W J	1
....5	R413	CRD20TJ104T	RES , CARBON	100K OHM 1/5W J	1
....5	R415	CRD20TJ473T	RES , CARBON	47K OHM 1/5W J	1
....5	R431	CRD20TJ100T	RES , CARBON	10 OHM 1/5W J	1
....5	R432	CRD20TJ100T	RES , CARBON	10 OHM 1/5W J	1
....5	R511	CRD20TJ100T	RES , CARBON	10 OHM 1/5W J	1
....5	R512	CRD20TJ100T	RES , CARBON	10 OHM 1/5W J	1
....5	R513	CRD20TJ153T	RES , CARBON	15K OHM 1/5W J	1
....5	R514	CRD20TJ153T	RES , CARBON	15K OHM 1/5W J	1
....5	R541	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	1
....5	R551	CRD20TJ221T	RES , CARBON	220 OHM 1/5W J	1
....5	R552	CRD20TJ221T	RES , CARBON	220 OHM 1/5W J	1
....5	R553	CRD20TJ104T	RES , CARBON	100K OHM 1/5W J	1
....5	R554	CRD20TJ104T	RES , CARBON	100K OHM 1/5W J	1
....5	R601	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	1
....5	R603	CRD20TJ104T	RES , CARBON	100K OHM 1/5W J	1
....5	R604	CRD20TJ472T	RES , CARBON	4.7K OHM 1/5W J	1
....5	R612	CRD20TJ103T	RES , CARBON	10K OHM 1/5W J	1
....5	R701	CRD20TJ102T	RES , CARBON	1K OHM 1/5W J	1
....5	R702	CRD20TJ102T	RES , CARBON	1K OHM 1/5W J	1
....5	R703	CRD20TJ102T	RES , CARBON	1K OHM 1/5W J	1
....5	R711	CRD20TJ470T	RES , CARBON	47 OHM 1/5W J	1
....5	R712	CRD20TJ470T	RES , CARBON	47 OHM 1/5W J	1
....5	R713	CRD20TJ470T	RES , CARBON	47 OHM 1/5W J	1
....5	R721	CRD20TJ103T	RES , CARBON	10K OHM 1/5W J	1
....5	R722	CRD20TJ101T	RES , CARBON(1/5W,100,5%)	100 OHM 1/5W J	1
....5	R731	CRD20TJ100T	RES , CARBON	10 OHM 1/5W J	1
....5	R735	CRD20TJ152T	RES , CARBON	1.5K OHM 1/5W J	1
....5	R741	CRD20TJ123T	RES , CARBON	12K OHM 1/5W J	1
....5	R742	CRD20TJ102T	RES , CARBON	1K OHM 1/5W J	1
....5	R801	CRD20TJ101T	RES , CARBON(1/5W,100,5%)	100 OHM 1/5W J	1
....5	R802	CRD20TJ101T	RES , CARBON(1/5W,100,5%)	100 OHM 1/5W J	1
....5	R811	CRD20TJ104T	RES , CARBON	100K OHM 1/5W J	1
....5	R812	CRD20TJ102T	RES , CARBON	1K OHM 1/5W J	1
....5	R813	CRD20TJ103T	RES , CARBON	10K OHM 1/5W J	1
....5	R821	CRD20TJ102T	RES , CARBON	1K OHM 1/5W J	1
....5	R822	CRD20TJ103T	RES , CARBON	10K OHM 1/5W J	1
....5	R823	CRD20TJ104T	RES , CARBON	100K OHM 1/5W J	1
....5	R834	CRD20TJ222T	RES , CARBON	2.2K OHM 1/5W J	1
....5	R835	CRD20TJ103T	RES , CARBON	10K OHM 1/5W J	1
....5	R836	CRD20TJ152T	RES , CARBON	1.5K OHM 1/5W J	1
....5	R901	CRD25TJ101T	RES , CARBON (100 OHM)		1
....5	R902	CRD20TJ101T	RES , CARBON(1/5W,100,5%)	100 OHM 1/5W J	1
....5	R911	CRD20TJ101T	RES , CARBON(1/5W,100,5%)	100 OHM 1/5W J	1
....5	R912	CRD20TJ101T	RES , CARBON(1/5W,100,5%)	100 OHM 1/5W J	1
....5	R921	CRD20TJ102T	RES , CARBON	1K OHM 1/5W J	1
....5	R922	CRD20TJ102T	RES , CARBON	1K OHM 1/5W J	1
....5	R923	CRD20TJ152T	RES , CARBON	1.5K OHM 1/5W J	1
....5	R924	CRD20TJ152T	RES , CARBON	1.5K OHM 1/5W J	1

FRONT PCB ASSY

Level	Ref. #	Part Number	Description	Drawing No (Value)	Qty
....5	R925	CRD20TJ104T	RES , CARBON	100K OHM 1/5W J	1
....5	R926	CRD20TJ104T	RES , CARBON	100K OHM 1/5W J	1
....5	R931	CRD20TJ104T	RES , CARBON	100K OHM 1/5W J	1
....5	R932	CRD20TJ104T	RES , CARBON	100K OHM 1/5W J	1
....5	R933	CRD20TJ221T	RES , CARBON	220 OHM 1/5W J	1
....5	R934	CRD20TJ221T	RES , CARBON	220 OHM 1/5W J	1
....5	R935	CRD20TJ221T	RES , CARBON	220 OHM 1/5W J	1
....5	R936	CRD20TJ221T	RES , CARBON	220 OHM 1/5W J	1
....5	R941	CRD25TJ432T	RES , CARBON(1/4W, 4.3K)		1
....5	R942	CRD20TJ472T	RES , CARBON	4.7K OHM 1/5W J	1
....5	R943	CRD20TJ472T	RES , CARBON	4.7K OHM 1/5W J	1
....5	R944	CRD20TJ472T	RES , CARBON	4.7K OHM 1/5W J	1
....5	R951	CRD20TJ102T	RES , CARBON	1K OHM 1/5W J	1
....5	R953	CRD20TJ362T	RES , CARBON	3.6K OHM 1/5W J	1
....5	R954	CRD20TJ103T	RES , CARBON	10K OHM 1/5W J	1
....5	S311	CST1A024ZT	SW , TACT		1
....5	S312	CST1A024ZT	SW , TACT		1
....5	S313	CST1A024ZT	SW , TACT		1
....5	S314	CST1A024ZT	SW , TACT		1
....5	S315	CST1A024ZT	SW , TACT		1
....5	S316	CST1A024ZT	SW , TACT		1
....5	S317	CST1A024ZT	SW , TACT		1
....5	S318	CST1A024ZT	SW , TACT		1
....5	S319	CST1A024ZT	SW , TACT		1
....5	S320	CST1A024ZT	SW , TACT		1
....5	S321	CST1A024ZT	SW , TACT		1
....5	S322	CST1A024ZT	SW , TACT		1
....5	S323	CST1A024ZT	SW , TACT		1
....5	S330	CST1A024ZT	SW , TACT		1
...4	BK71	CMD1A572	BRACKET , FIP		1
...4	BK72	CMD1A572	BRACKET , FIP		1
...4	BK73	CMC1A390	PLATE , SHIELD		1
...4	BK74	CMC1A390	PLATE , SHIELD		1
...4	BN51	CWB1C907400BM001	SHIELD WIRE ASS'Y (2.5mm, 400mm, 7pin)		1
...4	BN52	CWB1C903400BM001	SHIELD WIRE ASS'Y (2.5mm, 400mm, 3pin)		1
...4	BN61	CJP12GB143ZB	PIN HEADER , DIP SOCKET(12PIN, 2.54mm, ANGLE)		1
...4	BN73	CJP06GB143ZB	FEMALE HEADER(6P, 2.54mm)		1
...4	BN74	CWB1C905120BM	WIRE ASS'Y		1
...4	CN61	CJP12GA239ZB	PIN HEADER(12P, 2.54mm), STRAIGHT TYPE		1
...4	CN71	CJP05GB03ZY	WAFER , ANGLE (2.5mm)		1
...4	CN72	CJP31GA41ZM	WAFER (1.25MM, CARD CABLE, STRAIGHT 31P)	MOLEX 52045-**45	1
...4	CN73	CJP06GB142ZB	PIN HEADER(6P, 2.54mm)		1
...4	CN74	CJP05GB03ZY	WAFER , ANGLE (2.5mm)		1
...4	C411	CCEA1JH101E	CAP , ELECT	100UF 63V	1
...4	D101	CVD1L0345W31BOCT201W	L.E.D , WHITE		1
...4	D102	CVD30ASOGCAA-S7	L.E.D , ORANGE	T0L-30ASOGCAA-S7	1
...4	D201	CVD1L0345W31BOCT201W	L.E.D , WHITE		1
...4	D202	CVD1L0345W31BOCT201W	L.E.D , WHITE		1
...4	D203	CVD1L0345W31BOCT201W	L.E.D , WHITE		1
...4	ET63	CMC2A325	PLATE , EARTH AVR155		1
...4	ET64	CMC4A111	PLATE , EARTH		1
...4	FB13	KLZ9H001Z	BEAD , CORE		1
...4	FB14	KLZ9H001Z	BEAD , CORE		1
...4	FB15	KLZ9H001Z	BEAD , CORE		1
...4	F1	CFL162BD01GINK	V.F.D	162-BD-01GINK	1
...4	IC11	HVI74HCU04AFNG	I.C , INVERTER (TOSHIBA)	TC74HCU04AFNG(TOSHIBA)	1
...4	IC12	HRVNJL34H380A	SENSOR , REMOCON (JRC)		1
...4	IC13	HVI74ACT04MTR	I.C , HEX (ST)		1
...4	IC14	HVINJM2068MTE1	I.C , OP AMP (JRC)	NJM2068M-TE1	1
...4	IC15	HVINJM4556AL	I.C , HEADPHONE (JRC)	NJM4556AL	1
...4	JK51	CJJ9X006Z	JACK , USB STRAIGHT(BLACK)	U250FD004BY	1
...4	JK52	CJJ4S028Y	JACK , BOARD (3P SILVER)		1
...4	JK61	CJJ4M041Y	JACK , BOARD (COAX)		1
...4	JK62	HJSTORX177L	MODULE , OPTICAL(RX)	TORX177L	1
...4	JK63	CJJ2E026Z	JACK , HEADPHONE(SILVER PLATE)		1
...4	RL91	CSL4A016ZU	RELAY , 12V 2C2P	BC3-12H	1
...4	VR74	CSR2A037Z	ENCODER		1

MAIN PCB ASSY

Level	Ref. #	Part Number	Description	Drawing No (Value)	Qty
..3		**COP12170G**	**AVR460 MAIN PCB ASS'Y**		**1**
....5	C501	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C502	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C503	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C504	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C505	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C506	CCKT1H331KB	CAP , CERAMIC	330PF 50V K	1
....5	C507	CCBS1H331KBT	CAP , CERAMIC(330PF/50V)	CH UP025 B331K-A-B Z	1
....5	C508	CCBS1H331KBT	CAP , CERAMIC(330PF/50V)	CH UP025 B331K-A-B Z	1
....5	C509	CCKT1H331KB	CAP , CERAMIC	330PF 50V K	1
....5	C510	CCBS1H331KBT	CAP , CERAMIC(330PF/50V)	CH UP025 B331K-A-B Z	1
....5	C561	CCEA1CH101T	CAP , ELECT	100UF 16V	1
....5	C562	CCEA1CH101T	CAP , ELECT	100UF 16V	1
....5	C563	CCEA1CH101T	CAP , ELECT	100UF 16V	1
....5	C564	CCEA1CH101T	CAP , ELECT	100UF 16V	1
....5	C565	CCEA1CH101T	CAP , ELECT	100UF 16V	1
....5	C566	CCEA1CH101T	CAP , ELECT	100UF 16V	1
....5	C567	CCEA1CH101T	CAP , ELECT	100UF 16V	1
....5	C568	CCEA1CH101T	CAP , ELECT	100UF 16V	1
....5	C569	CCEA1CH101T	CAP , ELECT	100UF 16V	1
....5	C570	CCEA1CH101T	CAP , ELECT	100UF 16V	1
....5	C571	CCBS1H681KBT	CAP , CERAMIC(680PF/50V)	CH UP025 B681K-A-B Z	1

MAIN PCB ASSY					
Level	Ref. #	Part Number	Description	Drawing No (Value)	Qty
....5	C572	CCBS1H681KBT	CAP , CERAMIC(680PF/50V)	CH UP025 B681K-A-B Z	1
....5	C573	CCBS1H681KBT	CAP , CERAMIC(680PF/50V)	CH UP025 B681K-A-B Z	1
....5	C574	CCBS1H681KBT	CAP , CERAMIC(680PF/50V)	CH UP025 B681K-A-B Z	1
....5	C575	CCBS1H681KBT	CAP , CERAMIC(680PF/50V)	CH UP025 B681K-A-B Z	1
....5	C601	CCCT1H120JC	CAP , CERAMIC	12PF 50V J	1
....5	C602	CCCT1H120JC	CAP , CERAMIC	12PF 50V J	1
....5	C603	CCCT1H120JC	CAP , CERAMIC	12PF 50V J	1
....5	C604	CCCT1H120JC	CAP , CERAMIC	12PF 50V J	1
....5	C605	CCCT1H120JC	CAP , CERAMIC	12PF 50V J	1
....5	C606	CCCT1H330JC	CAP , CERAMIC	33PF 50V J	1
....5	C607	CCCT1H330JC	CAP , CERAMIC	33PF 50V J	1
....5	C608	CCCT1H330JC	CAP , CERAMIC	33PF 50V J	1
....5	C609	CCCT1H330JC	CAP , CERAMIC	33PF 50V J	1
....5	C610	CCCT1H330JC	CAP , CERAMIC	33PF 50V J	1
....5	C681	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C682	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C683	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C684	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C685	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C721	CCKT1H221KB	CAP , CERAMIC	220PF 50V K	1
....5	C722	CCKT1H221KB	CAP , CERAMIC	220PF 50V K	1
....5	C723	CCKT1H221KB	CAP , CERAMIC	220PF 50V K	1
....5	C724	CCKT1H221KB	CAP , CERAMIC	220PF 50V K	1
....5	C725	CCKT1H221KB	CAP , CERAMIC	220PF 50V K	1
....5	C726	CCKT1H221KB	CAP , CERAMIC	220PF 50V K	1
....5	C727	CCKT1H221KB	CAP , CERAMIC	220PF 50V K	1
....5	C728	CCKT1H221KB	CAP , CERAMIC	220PF 50V K	1
....5	C801	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C802	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C803	CCCT1H330JC	CAP , CERAMIC	33PF 50V J	1
....5	C804	CCCT1H330JC	CAP , CERAMIC	33PF 50V J	1
....5	C805	CCCT1H120JC	CAP , CERAMIC	12PF 50V J	1
....5	C806	CCCT1H120JC	CAP , CERAMIC	12PF 50V J	1
....5	C811	CCEA1CH101T	CAP , ELECT	100UF 16V	1
....5	C812	CCEA1CH101T	CAP , ELECT	100UF 16V	1
....5	C813	CCEA1CH101T	CAP , ELECT	100UF 16V	1
....5	C814	CCEA1CH101T	CAP , ELECT	100UF 16V	1
....5	C815	CCKT1H331KB	CAP , CERAMIC	330PF 50V K	1
....5	C816	CCBS1H331KBT	CAP , CERAMIC(330PF/50V)	CH UP025 B331K-A-B Z	1
....5	C817	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C818	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C819	CCBS1H681KBT	CAP , CERAMIC(680PF/50V)	CH UP025 B681K-A-B Z	1
....5	C820	CCBS1H681KBT	CAP , CERAMIC(680PF/50V)	CH UP025 B681K-A-B Z	1
....5	C851	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C852	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C853	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C854	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C855	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C856	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C857	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C900	HCQI1H473JZT	CAP , MYLAR	0.047UF 50V J	1
....5	C901	HCQI1H473JZT	CAP , MYLAR	0.047UF 50V J	1
....5	C905	CCBS1H223ZFT	CAP , CERAMIC(22000PF/50V)	CH UP025 F223Z-A-B J	1
....5	C907	CCEA1CH101T	CAP , ELECT	100UF 16V	1
....5	C908	CCBS1H223ZFT	CAP , CERAMIC(22000PF/50V)	CH UP025 F223Z-A-B J	1
....5	C910	HCQI1H473JZT	CAP , MYLAR	0.047UF 50V J	1
....5	C911	CCEA1CH471T	CAP , ELECT	470UF 16V	1
....5	C912	CCEA1CH221T	CAP , ELECT	220UF 16V	1
....5	C913	CCFT1H104ZF	CAP , SEMICONDUCTOR	0.1UF 50V Z	1
....5	C914	HCQI1H473JZT	CAP , MYLAR	0.047UF 50V J	1
....5	C917	HCQI1H473JZT	CAP , MYLAR	0.047UF 50V J	1
....5	C918	HCQI1H473JZT	CAP , MYLAR	0.047UF 50V J	1
....5	C919	HCQI1H473JZT	CAP , MYLAR	0.047UF 50V J	1
....5	C924	CCFT1H104ZF	CAP , SEMICONDUCTOR	0.1UF 50V Z	1
....5	C925	CCFT1H104ZF	CAP , SEMICONDUCTOR	0.1UF 50V Z	1
....5	C932	CCEA1CH101T	CAP , ELECT	100UF 16V	1
....5	C933	CCEA1EH221T	CAP , ELECT	220UF 25V	1
....5	C934	CCFT1H223ZF	CAP , CERAMIC	0.022UF 50V Z	1
....5	C936	CCEA1EH221T	CAP , ELECT	220UF 25V	1
....5	C939	CCEA1HH4R7T	CAP , ELECT	4.7UF 50V	1
....5	C940	CCEA1AH471T	CAP , ELECT	470UF 10V	1
....5	C948	CCBS1H104ZFT	CAP , CERAMIC	0.1UF 50V Z	1
....5	C950	CCEA1AH471T	CAP , ELECT	470UF 10V	1
....5	C971	HCQI1H562JZT	CAP , MYLAR	5600PF 50V J	1
....5	C972	HCQI1H562JZT	CAP , MYLAR	5600PF 50V J	1
....5	C973	HCQI1H562JZT	CAP , MYLAR	5600PF 50V J	1
....5	C974	HCQI1H562JZT	CAP , MYLAR	5600PF 50V J	1
....5	C975	HCQI1H562JZT	CAP , MYLAR	5600PF 50V J	1
....5	C977	CCEA1HH4R7T	CAP , ELECT	4.7UF 50V	1
....5	C980	HCQI1H562JZT	CAP , MYLAR	5600PF 50V J	1
....5	C981	HCQI1H562JZT	CAP , MYLAR	5600PF 50V J	1
....5	C990	HCQI1H473JZT	CAP , MYLAR	0.047UF 50V J	1
....5	C991	CCEA1HH1R0T	CAP , ELECT	1UF 50V	1
....5	C992	HCQI1H473JZT	CAP , MYLAR	0.047UF 50V J	1
....5	C993	HCQI1H473JZT	CAP , MYLAR	0.047UF 50V J	1
....5	C994	HCQI1H473JZT	CAP , MYLAR	0.047UF 50V J	1
....5	C995	HCQI1H473JZT	CAP , MYLAR	0.047UF 50V J	1
....5	C996	HCQI1H473JZT	CAP , MYLAR	0.047UF 50V J	1
....5	C997	HCQI1H473JZT	CAP , MYLAR	0.047UF 50V J	1
....5	C999	CCBS1H223ZFT	CAP , CERAMIC(22000PF/50V)	CH UP025 F223Z-A-B J	1
....5	D501	HVD1SS133MT	DIODE	1SS133T-77	1
....5	D502	HVD1SS133MT	DIODE	1SS133T-77	1
....5	D503	HVD1SS133MT	DIODE	1SS133T-77	1

MAIN PCB ASSY					
Level	Ref. #	Part Number	Description	Drawing No (Value)	Qty
....5	D504	HVD1SS133MT	DIODE	1SS133T-77	1
....5	D505	HVD1SS133MT	DIODE	1SS133T-77	1
....5	D581	HVD1SS133MT	DIODE	1SS133T-77	1
....5	D582	HVD1SS133MT	DIODE	1SS133T-77	1
....5	D583	HVD1SS133MT	DIODE	1SS133T-77	1
....5	D584	HVD1SS133MT	DIODE	1SS133T-77	1
....5	D585	HVD1SS133MT	DIODE	1SS133T-77	1
....5	D801	HVD1SS133MT	DIODE	1SS133T-77	1
....5	D802	HVD1SS133MT	DIODE	1SS133T-77	1
....5	D803	HVD1SS133MT	DIODE	1SS133T-77	1
....5	D804	HVD1SS133MT	DIODE	1SS133T-77	1
....5	D901	HVD1N5819T	DIODE , SCHOTTKY	1N5819	1
....5	D902	HVD1SS133MT	DIODE	1SS133T-77	1
....5	D911	HVD1SS133MT	DIODE	1SS133T-77	1
....5	D912	HVD1SS133MT	DIODE	1SS133T-77	1
....5	D917	HVD1SS133MT	DIODE	1SS133T-77	1
....5	D953	HVD1SS133MT	DIODE	1SS133T-77	1
....5	D954	CVD1N4003SRT	DIODE , RECT	1N4003	1
....5	D955	CVD1N4003SRT	DIODE , RECT	1N4003	1
....5	D956	CVD1N4003SRT	DIODE , RECT	1N4003	1
....5	D957	CVD1N4003SRT	DIODE , RECT	1N4003	1
....5	D961	HVD1N5819T	DIODE , SCHOTTKY	1N5819	1
....5	D962	CVD1N4003SRT	DIODE , RECT	1N4003	1
....5	D963	CVD1N4003SRT	DIODE , RECT	1N4003	1
....5	D964	HVD1SS133MT	DIODE	1SS133T-77	1
....5	D967	HVD1SS133MT	DIODE	1SS133T-77	1
....5	D968	HVD1SS133MT	DIODE	1SS133T-77	1
....5	D969	HVD1SS133MT	DIODE	1SS133T-77	1
....5	D971	HVD1SS133MT	DIODE	1SS133T-77	1
....5	D972	HVD1SS133MT	DIODE	1SS133T-77	1
....5	D973	HVD1SS133MT	DIODE	1SS133T-77	1
....5	D974	HVD1SS133MT	DIODE	1SS133T-77	1
....5	D975	HVD1SS133MT	DIODE	1SS133T-77	1
....5	D976	HVD1SS133MT	DIODE	1SS133T-77	1
....5	D979	HVDMTZJ5.1BT	DIODE , ZENER	MTZJ5.1B 1/2W	1
....5	ET90	HJT1A025	PALTE , EARTH	MET37-0002	1
....5	ET91	HJT1A025	PALTE , EARTH	MET37-0002	1
....5	F901	KJCFC5S	HOLDER , FUSE		2
....5	F902	KBA2D2500TLET	FUSE (2.5A)		1
....5	IC97	HVIRE5VT28CATZ	I.C , RESET (RICOH)		1
....5	Q501	HVTKTA1268GRT	T.R	KTA1268GR	1
....5	Q502	HVTKTA1268GRT	T.R	KTA1268GR	1
....5	Q503	HVTKTA1268GRT	T.R	KTA1268GR	1
....5	Q504	HVTKTA1268GRT	T.R	KTA1268GR	1
....5	Q505	HVTKTA1268GRT	T.R	KTA1268GR	1
....5	Q511	HVTKTC3200GRT	T.R	KTC3200GR	1
....5	Q512	HVTKTC3200GRT	T.R	KTC3200GR	1
....5	Q513	HVTKTC3200GRT	T.R	KTC3200GR	1
....5	Q514	HVTKTC3200GRT	T.R	KTC3200GR	1
....5	Q515	HVTKTC3200GRT	T.R	KTC3200GR	1
....5	Q516	HVTKTC3200GRT	T.R	KTC3200GR	1
....5	Q517	HVTKTC3200GRT	T.R	KTC3200GR	1
....5	Q518	HVTKTC3200GRT	T.R	KTC3200GR	1
....5	Q519	HVTKTC3200GRT	T.R	KTC3200GR	1
....5	Q520	HVTKTC3200GRT	T.R	KTC3200GR	1
....5	Q541	HVTKTC3198YT	T.R	KTC3198Y	1
....5	Q542	HVTKTC3198YT	T.R	KTC3198Y	1
....5	Q543	HVTKTC3198YT	T.R	KTC3198Y	1
....5	Q544	HVTKTC3198YT	T.R	KTC3198Y	1
....5	Q545	HVTKTC3198YT	T.R	KTC3198Y	1
....5	Q556	HVTKTC3200GRT	T.R	KTC3200GR	1
....5	Q557	HVTKTC3200GRT	T.R	KTC3200GR	1
....5	Q558	HVTKTC3200GRT	T.R	KTC3200GR	1
....5	Q559	HVTKTC3200GRT	T.R	KTC3200GR	1
....5	Q560	HVTKTC3200GRT	T.R	KTC3200GR	1
....5	Q561	HVTKTC3200GRT	T.R	KTC3200GR	1
....5	Q562	HVTKTC3200GRT	T.R	KTC3200GR	1
....5	Q563	HVTKTC3200GRT	T.R	KTC3200GR	1
....5	Q564	HVTKTC3200GRT	T.R	KTC3200GR	1
....5	Q565	HVTKTC3200GRT	T.R	KTC3200GR	1
....5	Q601	HVTKTA1268GRT	T.R	KTA1268GR	1
....5	Q602	HVTKTA1268GRT	T.R	KTA1268GR	1
....5	Q603	HVTKTA1268GRT	T.R	KTA1268GR	1
....5	Q604	HVTKTA1268GRT	T.R	KTA1268GR	1
....5	Q605	HVTKTA1268GRT	T.R	KTA1268GR	1
....5	Q681	HVTKTC3199YT	T.R	KTC3199Y	1
....5	Q682	HVTKTC3199YT	T.R	KTC3199Y	1
....5	Q683	HVTKTC3199YT	T.R	KTC3199Y	1
....5	Q684	HVTKTC3199YT	T.R	KTC3199Y	1
....5	Q685	HVTKTC3199YT	T.R	KTC3199Y	1
....5	Q801	HVTKTC3199YT	T.R	KTC3199Y	1
....5	Q802	HVTKTC3199YT	T.R	KTC3199Y	1
....5	Q812	HVTKTA1268GRT	T.R	KTA1268GR	1
....5	Q813	HVTKTC3200GRT	T.R	KTC3200GR	1
....5	Q814	HVTKTA1268GRT	T.R	KTA1268GR	1
....5	Q815	HVTKTC3200GRT	T.R	KTC3200GR	1
....5	Q816	HVTKTA1268GRT	T.R	KTA1268GR	1
....5	Q817	HVTKTA1268GRT	T.R	KTA1268GR	1
....5	Q818	HVTKTC3200GRT	T.R	KTC3200GR	1
....5	Q819	HVTKTC3200GRT	T.R	KTC3200GR	1
....5	Q820	HVTKTC3200GRT	T.R	KTC3200GR	1
....5	Q821	HVTKTC3200GRT	T.R	KTC3200GR	1
....5	Q822	HVTKTC3200GRT	T.R	KTC3200GR	1

MAIN PCB ASSY					
Level	Ref. #	Part Number	Description	Drawing No (Value)	Qty
....5	Q823	HVTKTC3200GRT	T.R	KTC3200GR	1
....5	Q824	HVTKTC3198YT	T.R	KTC3198Y	1
....5	Q825	HVTKTC3198YT	T.R	KTC3198Y	1
....5	Q901	HVTKTC3199YT	T.R	KTC3199Y	1
....5	Q911	HVTKTA1271YT	T.R	KTA1271Y	1
....5	Q912	HVTKTA1271YT	T.R	KTA1271Y	1
....5	Q913	HVTKTA1271YT	T.R	KTA1271Y	1
....5	Q914	HVTKTA1271YT	T.R	KTA1271Y	1
....5	Q915	HVTKTC3199YT	T.R	KTC3199Y	1
....5	Q916	HVTKRC107MT	T.R	KRC107M	1
....5	Q917	HVTKRC107MT	T.R	KRC107M	1
....5	Q918	HVTKRC107MT	T.R	KRC107M	1
....5	Q938	HVTKRA107MT	T.R	KRA107M	1
....5	Q939	HVTKRA107MT	T.R	KRA107M	1
....5	Q941	HVTKTC3199YT	T.R	KTC3199Y	1
....5	Q942	HVTKTC3199YT	T.R	KTC3199Y	1
....5	Q943	HVTKTC3199YT	T.R	KTC3199Y	1
....5	Q960	HVTKRC107MT	T.R	KRC107M	1
....5	Q961	HVTKTA1024YT	T.R		1
....5	R500	CRD20TJ103T	RES , CARBON	10K OHM 1/5W J	1
....5	R501	CRD20TJ433T	RES , CARBON	43K OHM 1/5W J	1
....5	R502	CRD20TJ433T	RES , CARBON	43K OHM 1/5W J	1
....5	R503	CRD20TJ433T	RES , CARBON	43K OHM 1/5W J	1
....5	R504	CRD20TJ433T	RES , CARBON	43K OHM 1/5W J	1
....5	R505	CRD20TJ433T	RES , CARBON	43K OHM 1/5W J	1
....5	R506	CRD20TJ333T	RES , CARBON	33K OHM 1/5W J	1
....5	R507	CRD20TJ333T	RES , CARBON	33K OHM 1/5W J	1
....5	R508	CRD20TJ333T	RES , CARBON	33K OHM 1/5W J	1
....5	R509	CRD20TJ333T	RES , CARBON	33K OHM 1/5W J	1
....5	R510	CRD20TJ333T	RES , CARBON	33K OHM 1/5W J	1
....5	R511	CRD20TJ152T	RES , CARBON	1.5K OHM 1/5W J	1
....5	R512	CRD20TJ152T	RES , CARBON	1.5K OHM 1/5W J	1
....5	R513	CRD20TJ152T	RES , CARBON	1.5K OHM 1/5W J	1
....5	R514	CRD20TJ152T	RES , CARBON	1.5K OHM 1/5W J	1
....5	R515	CRD20TJ152T	RES , CARBON	1.5K OHM 1/5W J	1
....5	R516	CRD20TJ152T	RES , CARBON	1.5K OHM 1/5W J	1
....5	R517	CRD20TJ152T	RES , CARBON	1.5K OHM 1/5W J	1
....5	R518	CRD20TJ152T	RES , CARBON	1.5K OHM 1/5W J	1
....5	R519	CRD20TJ152T	RES , CARBON	1.5K OHM 1/5W J	1
....5	R520	CRD20TJ152T	RES , CARBON	1.5K OHM 1/5W J	1
....5	R521	CRD20TJ471T	RES , CARBON	470 OHM 1/5W J	1
....5	R522	CRD20TJ471T	RES , CARBON	470 OHM 1/5W J	1
....5	R523	CRD20TJ471T	RES , CARBON	470 OHM 1/5W J	1
....5	R524	CRD20TJ471T	RES , CARBON	470 OHM 1/5W J	1
....5	R525	CRD20TJ471T	RES , CARBON	470 OHM 1/5W J	1
....5	R531	CRD20TJ221T	RES , CARBON	220 OHM 1/5W J	1
....5	R532	CRD20TJ221T	RES , CARBON	220 OHM 1/5W J	1
....5	R533	CRD20TJ221T	RES , CARBON	220 OHM 1/5W J	1
....5	R534	CRD20TJ221T	RES , CARBON	220 OHM 1/5W J	1
....5	R535	CRD20TJ221T	RES , CARBON	220 OHM 1/5W J	1
....5	R536	CRD20TJ221T	RES , CARBON	220 OHM 1/5W J	1
....5	R537	CRD20TJ221T	RES , CARBON	220 OHM 1/5W J	1
....5	R538	CRD20TJ221T	RES , CARBON	220 OHM 1/5W J	1
....5	R539	CRD20TJ221T	RES , CARBON	220 OHM 1/5W J	1
....5	R540	CRD20TJ221T	RES , CARBON	220 OHM 1/5W J	1
....5	R541	CRD20TJ271T	RES , CARBON	270 OHM 1/5W J	1
....5	R542	CRD20TJ271T	RES , CARBON	270 OHM 1/5W J	1
....5	R543	CRD20TJ271T	RES , CARBON	270 OHM 1/5W J	1
....5	R544	CRD20TJ271T	RES , CARBON	270 OHM 1/5W J	1
....5	R545	CRD20TJ271T	RES , CARBON	270 OHM 1/5W J	1
....5	R556	CRD20TJ273T	RES , CARBON	27K OHM 1/5W J	1
....5	R557	CRD20TJ273T	RES , CARBON	27K OHM 1/5W J	1
....5	R558	CRD20TJ273T	RES , CARBON	27K OHM 1/5W J	1
....5	R559	CRD20TJ273T	RES , CARBON	27K OHM 1/5W J	1
....5	R560	CRD20TJ273T	RES , CARBON	27K OHM 1/5W J	1
....5	R561	CRD20TJ162T	RES , CARBON (1.6K OHM)		1
....5	R562	CRD20TJ162T	RES , CARBON (1.6K OHM)		1
....5	R563	CRD20TJ162T	RES , CARBON (1.6K OHM)		1
....5	R564	CRD20TJ162T	RES , CARBON (1.6K OHM)		1
....5	R565	CRD20TJ162T	RES , CARBON (1.6K OHM)		1
....5	R566	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
....5	R567	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
....5	R568	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
....5	R569	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
....5	R570	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
....5	R571	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
....5	R572	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
....5	R573	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
....5	R574	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
....5	R575	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
....5	R576	CRD20TJ100T	RES , CARBON	10 OHM 1/5W J	1
....5	R577	CRD20TJ100T	RES , CARBON	10 OHM 1/5W J	1
....5	R578	CRD20TJ100T	RES , CARBON	10 OHM 1/5W J	1
....5	R579	CRD20TJ100T	RES , CARBON	10 OHM 1/5W J	1
....5	R580	CRD20TJ100T	RES , CARBON	10 OHM 1/5W J	1
....5	R581	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
....5	R582	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
....5	R583	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
....5	R584	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
....5	R585	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
....5	R586	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
....5	R587	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
....5	R588	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1

MAIN PCB ASSY					
Level	Ref. #	Part Number	Description	Drawing No (Value)	Qty
....5	R589	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
....5	R590	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
....5	R591	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
....5	R592	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
....5	R593	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
....5	R594	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
....5	R595	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
....5	R596	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
....5	R597	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
....5	R598	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
....5	R599	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
....5	R600	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
....5	R601	CRD20TJ223T	RES , CARBON	22K OHM 1/5W J	1
....5	R602	CRD20TJ223T	RES , CARBON	22K OHM 1/5W J	1
....5	R603	CRD20TJ223T	RES , CARBON	22K OHM 1/5W J	1
....5	R604	CRD20TJ223T	RES , CARBON	22K OHM 1/5W J	1
....5	R605	CRD20TJ223T	RES , CARBON	22K OHM 1/5W J	1
....5	R606	CRD20TJ223T	RES , CARBON	22K OHM 1/5W J	1
....5	R607	CRD20TJ223T	RES , CARBON	22K OHM 1/5W J	1
....5	R608	CRD20TJ223T	RES , CARBON	22K OHM 1/5W J	1
....5	R609	CRD20TJ223T	RES , CARBON	22K OHM 1/5W J	1
....5	R610	CRD20TJ223T	RES , CARBON	22K OHM 1/5W J	1
....5	R611	CRD20TJ100T	RES , CARBON	10 OHM 1/5W J	1
....5	R612	CRD20TJ100T	RES , CARBON	10 OHM 1/5W J	1
....5	R631	CRD25FJ180T	RES , CARBON (18 OHM) NONFLAMMABLE		1
....5	R632	CRD25FJ180T	RES , CARBON (18 OHM) NONFLAMMABLE		1
....5	R633	CRD25FJ180T	RES , CARBON (18 OHM) NONFLAMMABLE		1
....5	R634	CRD25FJ180T	RES , CARBON (18 OHM) NONFLAMMABLE		1
....5	R635	CRD25FJ180T	RES , CARBON (18 OHM) NONFLAMMABLE		1
....5	R636	CRD25FJ180T	RES , CARBON (18 OHM) NONFLAMMABLE		1
....5	R637	CRD25FJ180T	RES , CARBON (18 OHM) NONFLAMMABLE		1
....5	R638	CRD25FJ180T	RES , CARBON (18 OHM) NONFLAMMABLE		1
....5	R639	CRD25FJ180T	RES , CARBON (18 OHM) NONFLAMMABLE		1
....5	R640	CRD25FJ180T	RES , CARBON (18 OHM) NONFLAMMABLE		1
....5	R646	CRD25FJ3R3T	RES , CARBON	3.3 OHM 1/4W J	1
....5	R647	CRD25FJ3R3T	RES , CARBON	3.3 OHM 1/4W J	1
....5	R648	CRD25FJ3R3T	RES , CARBON	3.3 OHM 1/4W J	1
....5	R649	CRD25FJ3R3T	RES , CARBON	3.3 OHM 1/4W J	1
....5	R650	CRD25FJ3R3T	RES , CARBON	3.3 OHM 1/4W J	1
....5	R651	CRD25FJ3R3T	RES , CARBON	3.3 OHM 1/4W J	1
....5	R652	CRD25FJ3R3T	RES , CARBON	3.3 OHM 1/4W J	1
....5	R653	CRD25FJ3R3T	RES , CARBON	3.3 OHM 1/4W J	1
....5	R654	CRD25FJ3R3T	RES , CARBON	3.3 OHM 1/4W J	1
....5	R655	CRD25FJ3R3T	RES , CARBON	3.3 OHM 1/4W J	1
....5	R666	CRD25TJ470T	RES , CARBON (47 OHM)		1
....5	R667	CRD25TJ470T	RES , CARBON (47 OHM)		1
....5	R668	CRD25TJ470T	RES , CARBON (47 OHM)		1
....5	R669	CRD25TJ470T	RES , CARBON (47 OHM)		1
....5	R670	CRD25TJ470T	RES , CARBON (47 OHM)		1
....5	R671	CRD20TJ472T	RES , CARBON	4.7K OHM 1/5W J	1
....5	R672	CRD20TJ472T	RES , CARBON	4.7K OHM 1/5W J	1
....5	R673	CRD20TJ472T	RES , CARBON	4.7K OHM 1/5W J	1
....5	R674	CRD20TJ472T	RES , CARBON	4.7K OHM 1/5W J	1
....5	R675	CRD20TJ472T	RES , CARBON	4.7K OHM 1/5W J	1
....5	R676	CRD25TJ182T	RES , CARBON (1.8K OHM)		1
....5	R677	CRD25TJ182T	RES , CARBON (1.8K OHM)		1
....5	R678	CRD25TJ182T	RES , CARBON (1.8K OHM)		1
....5	R679	CRD25TJ182T	RES , CARBON (1.8K OHM)		1
....5	R680	CRD25TJ182T	RES , CARBON (1.8K OHM)		1
....5	R681	CRD20TJ562T	RES , CARBON	5.6K OHM 1/5W J	1
....5	R682	CRD20TJ562T	RES , CARBON	5.6K OHM 1/5W J	1
....5	R683	CRD20TJ562T	RES , CARBON	5.6K OHM 1/5W J	1
....5	R684	CRD20TJ562T	RES , CARBON	5.6K OHM 1/5W J	1
....5	R685	CRD20TJ562T	RES , CARBON	5.6K OHM 1/5W J	1
....5	R686	CRD20TJ103T	RES , CARBON	10K OHM 1/5W J	1
....5	R687	CRD20TJ103T	RES , CARBON	10K OHM 1/5W J	1
....5	R688	CRD20TJ103T	RES , CARBON	10K OHM 1/5W J	1
....5	R689	CRD20TJ103T	RES , CARBON	10K OHM 1/5W J	1
....5	R690	CRD20TJ103T	RES , CARBON	10K OHM 1/5W J	1
....5	R696	CRD25TJ470T	RES , CARBON (47 OHM)		1
....5	R697	CRD25TJ470T	RES , CARBON (47 OHM)		1
....5	R698	CRD25TJ470T	RES , CARBON (47 OHM)		1
....5	R699	CRD25TJ470T	RES , CARBON (47 OHM)		1
....5	R700	CRD25TJ470T	RES , CARBON (47 OHM)		1
....5	R771	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	1
....5	R772	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	1
....5	R773	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	1
....5	R774	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	1
....5	R775	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	1
....5	R776	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	1
....5	R777	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	1
....5	R781	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	1
....5	R782	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	1
....5	R783	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	1
....5	R784	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	1
....5	R785	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	1
....5	R786	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	1
....5	R787	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	1
....5	R801	CRD20TJ103T	RES , CARBON	10K OHM 1/5W J	1
....5	R802	CRD20TJ103T	RES , CARBON	10K OHM 1/5W J	1
....5	R803	CRD20TJ562T	RES , CARBON	5.6K OHM 1/5W J	1
....5	R804	CRD20TJ562T	RES , CARBON	5.6K OHM 1/5W J	1
....5	R805	CRD20TJ472T	RES , CARBON	4.7K OHM 1/5W J	1

MAIN PCB ASSY					
Level	Ref. #	Part Number	Description	Drawing No (Value)	Qty
....5	R807	CRD20TJ472T	RES , CARBON	4.7K OHM 1/5W J	1
....5	R808	CRD25TJ182T	RES , CARBON (1.8K OHM)		1
....5	R809	CRD25TJ182T	RES , CARBON (1.8K OHM)		1
....5	R812	CRD25TJ470T	RES , CARBON (47 OHM)		1
....5	R813	CRD25TJ470T	RES , CARBON (47 OHM)		1
....5	R814	CRD25TJ470T	RES , CARBON (47 OHM)		1
....5	R815	CRD25TJ470T	RES , CARBON (47 OHM)		1
....5	R817	CRD25FJ3R3T	RES , CARBON	3.3 OHM 1/4W J	1
....5	R818	CRD25FJ3R3T	RES , CARBON	3.3 OHM 1/4W J	1
....5	R819	CRD25FJ3R3T	RES , CARBON	3.3 OHM 1/4W J	1
....5	R820	CRD25FJ3R3T	RES , CARBON	3.3 OHM 1/4W J	1
....5	R821	CRD25FJ180T	RES , CARBON (18 OHM) NONFLAMMABLE		1
....5	R822	CRD25FJ180T	RES , CARBON (18 OHM) NONFLAMMABLE		1
....5	R823	CRD25FJ180T	RES , CARBON (18 OHM) NONFLAMMABLE		1
....5	R824	CRD25FJ180T	RES , CARBON (18 OHM) NONFLAMMABLE		1
....5	R830	CRD20TJ223T	RES , CARBON	22K OHM 1/5W J	1
....5	R831	CRD20TJ223T	RES , CARBON	22K OHM 1/5W J	1
....5	R832	CRD20TJ223T	RES , CARBON	22K OHM 1/5W J	1
....5	R833	CRD20TJ223T	RES , CARBON	22K OHM 1/5W J	1
....5	R834	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
....5	R835	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
....5	R836	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
....5	R837	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
....5	R838	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
....5	R839	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
....5	R840	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
....5	R841	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
....5	R842	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
....5	R843	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
....5	R844	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
....5	R845	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
....5	R848	CRD20TJ273T	RES , CARBON	27K OHM 1/5W J	1
....5	R849	CRD20TJ273T	RES , CARBON	27K OHM 1/5W J	1
....5	R850	CRD20TJ162T	RES , CARBON (1.6K OHM)		1
....5	R851	CRD20TJ162T	RES , CARBON (1.6K OHM)		1
....5	R852	CRD20TJ152T	RES , CARBON	1.5K OHM 1/5W J	1
....5	R853	CRD20TJ152T	RES , CARBON	1.5K OHM 1/5W J	1
....5	R854	CRD20TJ152T	RES , CARBON	1.5K OHM 1/5W J	1
....5	R855	CRD20TJ152T	RES , CARBON	1.5K OHM 1/5W J	1
....5	R856	CRD20TJ221T	RES , CARBON	220 OHM 1/5W J	1
....5	R857	CRD20TJ221T	RES , CARBON	220 OHM 1/5W J	1
....5	R858	CRD20TJ221T	RES , CARBON	220 OHM 1/5W J	1
....5	R859	CRD20TJ221T	RES , CARBON	220 OHM 1/5W J	1
....5	R860	CRD20TJ271T	RES , CARBON	270 OHM 1/5W J	1
....5	R861	CRD20TJ271T	RES , CARBON	270 OHM 1/5W J	1
....5	R862	CRD20TJ333T	RES , CARBON	33K OHM 1/5W J	1
....5	R863	CRD20TJ333T	RES , CARBON	33K OHM 1/5W J	1
....5	R870	CRD20TJ433T	RES , CARBON	43K OHM 1/5W J	1
....5	R871	CRD20TJ433T	RES , CARBON	43K OHM 1/5W J	1
....5	R872	CRD20TJ471T	RES , CARBON	470 OHM 1/5W J	1
....5	R873	CRD20TJ471T	RES , CARBON	470 OHM 1/5W J	1
....5	R874	CRD20TJ331T	RES , CARBON	330 OHM 1/5W J	1
....5	R875	CRD20TJ331T	RES , CARBON	330 OHM 1/5W J	1
....5	R876	CRD20TJ331T	RES , CARBON	330 OHM 1/5W J	1
....5	R877	CRD20TJ331T	RES , CARBON	330 OHM 1/5W J	1
....5	R878	CRD20TJ331T	RES , CARBON	330 OHM 1/5W J	1
....5	R879	CRD20TJ331T	RES , CARBON	330 OHM 1/5W J	1
....5	R880	CRD20TJ331T	RES , CARBON	330 OHM 1/5W J	1
....5	R882	CRD20TJ122T	RES , CARBON	1.2K OHM 1/5W J	1
....5	R883	CRD20TJ122T	RES , CARBON	1.2K OHM 1/5W J	1
....5	R884	CRD20TJ122T	RES , CARBON	1.2K OHM 1/5W J	1
....5	R885	CRD20TJ122T	RES , CARBON	1.2K OHM 1/5W J	1
....5	R886	CRD20TJ122T	RES , CARBON	1.2K OHM 1/5W J	1
....5	R887	CRD20TJ122T	RES , CARBON	1.2K OHM 1/5W J	1
....5	R888	CRD20TJ122T	RES , CARBON	1.2K OHM 1/5W J	1
....5	R891	CRD20TJ391T	RES , CARBON (390 OHM)		1
....5	R892	CRD20TJ391T	RES , CARBON (390 OHM)		1
....5	R893	CRD20TJ391T	RES , CARBON (390 OHM)		1
....5	R894	CRD20TJ391T	RES , CARBON (390 OHM)		1
....5	R895	CRD20TJ391T	RES , CARBON (390 OHM)		1
....5	R896	CRD20TJ391T	RES , CARBON (390 OHM)		1
....5	R897	CRD20TJ391T	RES , CARBON (390 OHM)		1
....5	R900	CRD20TJ103T	RES , CARBON	10K OHM 1/5W J	1
....5	R906	CRD20TJ104T	RES , CARBON	100K OHM 1/5W J	1
....5	R912	CRD20TJ332T	RES , CARBON	3.3K OHM 1/5W J	1
....5	R917	CRD25TJ393T	RES , CARBON (39K OHM)		1
....5	R918	CRD25TJ393T	RES , CARBON (39K OHM)		1
....5	R919	CRD25TJ393T	RES , CARBON (39K OHM)		1
....5	R920	CRD25TJ393T	RES , CARBON (39K OHM)		1
....5	R924	CRD20TJ473T	RES , CARBON	47K OHM 1/5W J	1
....5	R925	CRD20TJ473T	RES , CARBON	47K OHM 1/5W J	1
....5	R926	CRD20TJ473T	RES , CARBON	47K OHM 1/5W J	1
....5	R927	CRD20TJ473T	RES , CARBON	47K OHM 1/5W J	1
....5	R928	CRD20TJ222T	RES , CARBON	2.2K OHM 1/5W J	1
....5	R929	CRD20TJ222T	RES , CARBON	2.2K OHM 1/5W J	1
....5	R930	CRD20TJ222T	RES , CARBON	2.2K OHM 1/5W J	1
....5	R931	CRD20TJ222T	RES , CARBON	2.2K OHM 1/5W J	1
....5	R933	CRD20TJ472T	RES , CARBON	4.7K OHM 1/5W J	1
....5	R934	CRD20TJ223T	RES , CARBON	22K OHM 1/5W J	1
....5	R935	CRD20TJ154T	RES , CARBON (150K OHM)		1
....5	R936	CRD20TJ334T	RES , CARBON (330K OHM)		1
....5	R939	CRD20TJ472T	RES , CARBON	4.7K OHM 1/5W J	1
....5	R940	CRD20TJ152T	RES , CARBON	1.5K OHM 1/5W J	1

MAIN PCB ASSY					
Level	Ref. #	Part Number	Description	Drawing No (Value)	Qty
....5	R941	CRD25TJ223T	RES , CARBON	22K OHM 1/4W J	1
....5	R942	CRD20TJ223T	RES , CARBON	22K OHM 1/5W J	1
....5	R943	CRD20TJ223T	RES , CARBON	22K OHM 1/5W J	1
....5	R944	CRD25TJ223T	RES , CARBON	22K OHM 1/4W J	1
....5	R945	CRD25TJ223T	RES , CARBON	22K OHM 1/4W J	1
....5	R946	CRD20TJ223T	RES , CARBON	22K OHM 1/5W J	1
....5	R947	CRD20TJ223T	RES , CARBON	22K OHM 1/5W J	1
....5	R948	CRD25TJ392T	RES , CARBON	3.9K 1/4W J	1
....5	R949	CRD20TJ334T	RES , CARBON (330K OHM)		1
....5	R952	CRD25TJ223T	RES , CARBON	22K OHM 1/4W J	1
....5	R953	CRD20TJ223T	RES , CARBON	22K OHM 1/5W J	1
....5	R954	CRD20TJ223T	RES , CARBON	22K OHM 1/5W J	1
....5	R955	CRD20TJ223T	RES , CARBON	22K OHM 1/5W J	1
....5	R956	CRD20TJ224T	RES , CARBON	220 KOHM 1/5W J	1
....5	R957	CRD20TJ153T	RES , CARBON	15K OHM 1/5W J	1
....5	R958	CRD20TJ563T	RES , CARBON	56K OHM 1/5W J	1
....5	R959	CRD20TJ104T	RES , CARBON	100K OHM 1/5W J	1
....5	R961	CRD20TJ331T	RES , CARBON	330 OHM 1/5W J	1
....5	R962	CRD20TJ273T	RES , CARBON	27K OHM 1/5W J	1
....5	R964	CRD20TJ223T	RES , CARBON	22K OHM 1/5W J	1
....5	R965	CRD20TJ223T	RES , CARBON	22K OHM 1/5W J	1
....5	R986	CRD20TJ102T	RES , CARBON	1K OHM 1/5W J	1
....5	R987	CRD20TJ561T	RES , CARBON	560 OHM 1/5W J	1
....5	R988	CRD20TJ562T	RES , CARBON	5.6K OHM 1/5W J	1
....5	R989	CRD20TJ302T	RES , CARBON (3K OHM)		1
....5	R991	CRD20TJ822T	RES , CARBON	8.2K OHM 1/5W J	1
....5	R998	CRD20TJ103T	RES , CARBON	10K OHM 1/5W J	1
....5	VR81	CVN1RA221B02T	RES , SEMI FIXED (220, B CURVE)	KVSF637AVC	1
....5	VR82	CVN1RA221B02T	RES , SEMI FIXED (220, B CURVE)	KVSF637AVC	1
....5	VR83	CVN1RA221B02T	RES , SEMI FIXED (220, B CURVE)	KVSF637AVC	1
....5	VR84	CVN1RA221B02T	RES , SEMI FIXED (220, B CURVE)	KVSF637AVC	1
....5	VR85	CVN1RA221B02T	RES , SEMI FIXED (220, B CURVE)	KVSF637AVC	1
....5	VR86	CVN1RA221B02T	RES , SEMI FIXED (220, B CURVE)	KVSF637AVC	1
....5	VR87	CVN1RA221B02T	RES , SEMI FIXED (220, B CURVE)	KVSF637AVC	1
...4		CMYAVR3600/120	HEAT SINK ASS'Y		1
....5		CFNCF12825HSN	FAN , MOTOR		1
....5		CHD1A012R	SCREW , SPECIAL		14
....5		CHD1A036R	SCREW , SPECIAL		4
....5		CHD3A012R	SCREW , SPECIAL		12
....5		CMD1A398	BRACKET , PCB	AG-D9320	2
....5		CMD1A417	BRACKET , PCB	AG-D8900	2
....5		CMD1A694	BRACKET , FAN		1
....5		CMY2A314	HEAT SINK		1
....5		CTB3+8JR	SCREW		8
....5		K8AYG6260	COMPOUND , SILICONE		10
....5	Q652	CVT2SB1560P43M	TR , POWER (MICA 43 TYPE)		1
....5	Q653	CVT2SB1560P43M	TR , POWER (MICA 43 TYPE)		1
....5	Q654	CVT2SB1560P43M	TR , POWER (MICA 43 TYPE)		1
....5	Q655	CVT2SB1560P43M	TR , POWER (MICA 43 TYPE)		1
....5	Q657	CVT2SD2390P43M	TR , POWER (MICA 43 TYPE)		1
....5	Q658	CVT2SD2390P43M	TR , POWER (MICA 43 TYPE)		1
....5	Q659	CVT2SD2390P43M	TR , POWER (MICA 43 TYPE)		1
....5	Q660	CVT2SD2390P43M	TR , POWER (MICA 43 TYPE)		1
....5	Q661	CVT2SB1560P43M	TR , POWER (MICA 43 TYPE)		1
....5	Q670	CVT2SD2390P43M	TR , POWER (MICA 43 TYPE)		1
....5	Q803	CVT2SD2390P43M	TR , POWER (MICA 43 TYPE)		1
....5	Q804	CVT2SB1560P43M	TR , POWER (MICA 43 TYPE)		1
....5	Q805	CVT2SD2390P43M	TR , POWER (MICA 43 TYPE)		1
....5	Q807	CVT2SB1560P43M	TR , POWER (MICA 43 TYPE)		1
....5	Q851	HVTKTD600KGR	T.R , BIAS	KTD600KGR	1
....5	Q852	HVTKTD600KGR	T.R , BIAS	KTD600KGR	1
....5	Q853	HVTKTD600KGR	T.R , BIAS	KTD600KGR	1
....5	Q854	HVTKTD600KGR	T.R , BIAS	KTD600KGR	1
....5	Q855	HVTKTD600KGR	T.R , BIAS	KTD600KGR	1
....5	Q856	HVTKTD600KGR	T.R , BIAS	KTD600KGR	1
....5	Q857	HVTKTD600KGR	T.R , BIAS	KTD600KGR	1
...4		CQB1D022	A-ROHS/LABEL,SERIAL		1
...4		CTB3+8JR	SCREW		4
...4	BN14	CWB1D00718088	WIRE ASS'Y (2.5MM, 180MM, 7PIN, DUAL-DIPPING TYPE)		1
...4	BN15	CWB1D00915088	WIRE ASS'Y (2.5mm, 150mm, 9pin, Dual-dipping type)		1
...4	BN20	CWB3F905300UZ	WIRE ASS'Y (3.96mm, 300mm, 5pin)		1
...4	BN25	CWE8112120VV	WIRE ASS'Y (1PIN,120mm,LUG,#18,RED)		1
...4	BN26	CWE8112120VV	WIRE ASS'Y (1PIN,120mm,LUG,#18,RED)		1
...4	CN10	CJP03GA01ZY	WAFER		1
...4	CN11	CJP08GA221ZB	FEMALE HEADER (08P,2.54mm) , STRAIGHT TYPE		1
...4	CN12	CJP27GA41ZM	WAFER (1.25MM, CARD CABLE, STRAIGHT 27P)	MOLEX 52045-**45	1
...4	CN61	CJP02GA01ZY	WAFER , STRAIGHT, 2PIN		1
...4	CN62	CJP02GA01ZY	WAFER , STRAIGHT, 2PIN		1
...4	CN63	CJP02GA01ZY	WAFER , STRAIGHT, 2PIN		1
...4	CN64	CJP02GA01ZY	WAFER , STRAIGHT, 2PIN		1
...4	CN65	CJP02GA01ZY	WAFER , STRAIGHT, 2PIN		1
...4	CN66	CJP02GA01ZY	WAFER , STRAIGHT, 2PIN		1
...4	CN67	CJP02GA01ZY	WAFER , STRAIGHT, 2PIN		1
...4	CN89	CJP02GA01ZY	WAFER , STRAIGHT, 2PIN		1
...4	CN90	CJP02GA89ZY	WAFER		1
...4	CN91	CJP02GA89ZY	WAFER		1
...4	CN92	CJP02KA060ZY	WAFER		1
...4	CN93	CJP02GA01ZY	WAFER , STRAIGHT, 2PIN		1
...4	C631	CCEA1JH221E	CAP , ELECT	220UF 63V	1
...4	C632	CCEA1JH221E	CAP , ELECT	220UF 63V	1
...4	C633	CCEA1JH221E	CAP , ELECT	220UF 63V	1
...4	C634	CCEA1JH221E	CAP , ELECT	220UF 63V	1
...4	C635	CCEA1JH221E	CAP , ELECT	220UF 63V	1

MAIN PCB ASSY

Level	Ref. #	Part Number	Description	Drawing No (Value)	Qty
...4	C636	CCEA1JH221E	CAP , ELECT	220UF 63V	1
...4	C637	CCEA1JH221E	CAP , ELECT	220UF 63V	1
...4	C638	CCEA1JH221E	CAP , ELECT	220UF 63V	1
...4	C639	CCEA1JH221E	CAP , ELECT	220UF 63V	1
...4	C640	CCEA1JH221E	CAP , ELECT	220UF 63V	1
...4	C807	CCEA1JH221E	CAP , ELECT	220UF 63V	1
...4	C808	CCEA1JH221E	CAP , ELECT	220UF 63V	1
...4	C809	CCEA1JH221E	CAP , ELECT	220UF 63V	1
...4	C810	CCEA1JH221E	CAP , ELECT	220UF 63V	1
...4	C904	KCKDKS472ME	CAP , CERAMIC(X1/Y2/SC)	0.0047UF/2.5KV	1
...4	C906	CCEA1EH102E	CAP , ELECT	1000UF 25V	1
...4	C915	CCET63VKL5183NKZ	CAP , ELECT (35X55,18000uF/63V,KL5)		1
...4	C916	CCET63VKL5183NKZ	CAP , ELECT (35X55,18000uF/63V,KL5)		1
...4	ET92	CMD1A387	BRACKET , PCB		1
...4	ET93	CMD1A387	BRACKET , PCB		1
...4	IC95	HVIKIA78R05PI	REGULATOR (5V OUTPUT LOW DROP)	KIA78R05PI	1
...4	JK91	CJJ5R006Z	TERMINAL , SPEAKER		1
...4	JK92	CJJ5Q012Z	TERMINAL , SPEAKER		1
...4	JK97	CJJ4P041W	JACK IN/OUT		1
...4	JK98	CJJ4P042W	JACK IN/OUT		1
...4	JW91	CWE8112120VV	WIRE ASS'Y (1PIN,120mm,LUG,#18,RED)		1
...4	JW93	CWEE102100VV	WIRE ASS'Y (1P, BLACK, 100MM)		1
...4	L501	CLEY0R5KAK	COIL , SPEAKER	0.5UH K	1
...4	L502	CLEY0R5KAK	COIL , SPEAKER	0.5UH K	1
...4	L503	CLEY0R5KAK	COIL , SPEAKER	0.5UH K	1
...4	L504	CLEY0R5KAK	COIL , SPEAKER	0.5UH K	1
...4	L505	CLEY0R5KAK	COIL , SPEAKER	0.5UH K	1
...4	L506	CLEY0R5KAK	COIL , SPEAKER	0.5UH K	1
...4	L507	CLEY0R5KAK	COIL , SPEAKER	0.5UH K	1
...4	OL91	KJJ7A022Z	OUTLET , AC(EUR/1P)	A302D0061P	1
...4	Q858	HVTKTA1360Y	T.R , PRE DRIVE	KTA1360Y	1
...4	Q871	HVTKTA1360Y	T.R , PRE DRIVE	KTA1360Y	1
...4	Q872	HVTKTA1360Y	T.R , PRE DRIVE	KTA1360Y	1
...4	Q874	HVTKTA1360Y	T.R , PRE DRIVE	KTA1360Y	1
...4	Q875	HVTKTA1360Y	T.R , PRE DRIVE	KTA1360Y	1
...4	Q876	HVTKTA1360Y	T.R , PRE DRIVE	KTA1360Y	1
...4	Q877	HVTKTA1360Y	T.R , PRE DRIVE	KTA1360Y	1
...4	Q881	HVTKTC3423Y	T.R , PRE DRIVE	KTC3423Y	1
...4	Q882	HVTKTC3423Y	T.R , PRE DRIVE	KTC3423Y	1
...4	Q883	HVTKTC3423Y	T.R , PRE DRIVE	KTC3423Y	1
...4	Q884	HVTKTC3423Y	T.R , PRE DRIVE	KTC3423Y	1
...4	Q885	HVTKTC3423Y	T.R , PRE DRIVE	KTC3423Y	1
...4	Q886	HVTKTC3423Y	T.R , PRE DRIVE	KTC3423Y	1
...4	Q887	HVTKTC3423Y	T.R , PRE DRIVE	KTC3423Y	1
...4	RY94	CSL1E002ZE	RELAY , POWER	G5PA-1 (DC 6V)	1
...4	R656	CRF5EKR27HX2K	RES , CEMENT (0.27 OHM)		1
...4	R657	CRF5EKR27HX2K	RES , CEMENT (0.27 OHM)		1
...4	R658	CRF5EKR27HX2K	RES , CEMENT (0.27 OHM)		1
...4	R659	CRF5EKR27HX2K	RES , CEMENT (0.27 OHM)		1
...4	R660	CRF5EKR27HX2K	RES , CEMENT (0.27 OHM)		1
...4	R810	CRF5EKR27HX2K	RES , CEMENT (0.27 OHM)		1
...4	R811	CRF5EKR27HX2K	RES , CEMENT (0.27 OHM)		1
...4	R905	CRG1ANJ1R0H	RES , METAL OXIDE FILM	1 OHM 1W J	1
...4	R922	CRG2ANJ470H	RES , METAL OXIDE FILM	47 OHM 2W J	1
...4	R923	CRG1ANJ220H	RES , METAL OXIDE FILM	22 OHM 1W J	1
...4	R990	CRG1ANJ100H	RES , METAL OXIDE FILM	10 OHM 1W J	1
...4	R992	KRG1SANJ271RT	RES , METAL OXIDE FILM (270 OHM)		1
...4	R993	CRG1ANJ100H	RES , METAL OXIDE FILM	10 OHM 1W J	1
...4	R994	CRG1ANJ100H	RES , METAL OXIDE FILM	10 OHM 1W J	1
...4	R995	CRG1ANJ100H	RES , METAL OXIDE FILM	10 OHM 1W J	1
...4	R996	CRG1ANJ100H	RES , METAL OXIDE FILM	10 OHM 1W J	1
...4	R997	CRG1ANJ100H	RES , METAL OXIDE FILM	10 OHM 1W J	1
...4	R999	CRG1ANJ100H	RES , METAL OXIDE FILM	10 OHM 1W J	1
...4	TH91	KRTP42T7D330B	THERMAL SENSOR , POSISTOR	P42T7D330BW20	1
...4	T902	CLT5I019ZW	TRANS , SUB(AC 240V)		1

POWER PCB ASSY

Level	Ref. #	Part Number	Description	Drawing No (Value)	Qty
..3		**COP12172G**	**AVR460 POWER PCB ASS'Y**		**1**
....5	C104	HCQI1H103JZT	CAP , MYLAR	0.01UF 50V J	1
....5	C105	HCQI1H103JZT	CAP , MYLAR	0.01UF 50V J	1
....5	C106	HCQI1H104JZT	CAP , MYLAR	0.1UF 50V J	1
....5	C107	HCQI1H103JZT	CAP , MYLAR	0.01UF 50V J	1
....5	C108	HCQI1H103JZT	CAP , MYLAR	0.01UF 50V J	1
....5	C109	HCQI1H104JZT	CAP , MYLAR	0.1UF 50V J	1
....5	C110	CCEA1CH101T	CAP , ELECT	100UF 16V	1
....5	C123	CCFT1H473ZF	CAP , CERAMIC	0.047UF 50V Z	1
....5	C124	CCFT1H473ZF	CAP , CERAMIC	0.047UF 50V Z	1
....5	C125	CCBS1H473ZFT	CAP , CERAMIC(47000PF/50V)	CH UP025 F473Z-A-B J	1
....5	C127	CCBS1H104ZFT	CAP , CERAMIC	0.1UF 50V Z	1
....5	C131	CCEA1HH4R7T	CAP , ELECT	4.7UF 50V	1
....5	C132	CCFT1H473ZF	CAP , CERAMIC	0.047UF 50V Z	1
....5	C133	CCFT1H473ZF	CAP , CERAMIC	0.047UF 50V Z	1
....5	C134	CCFT1H473ZF	CAP , CERAMIC	0.047UF 50V Z	1
....5	C135	CCBS1H104ZFT	CAP , CERAMIC	0.1UF 50V Z	1
....5	C136	CCBS1H104ZFT	CAP , CERAMIC	0.1UF 50V Z	1
....5	C750	CCEA1CH101T	CAP , ELECT	100UF 16V	1
....5	C751	CCEA1CH101T	CAP , ELECT	100UF 16V	1
....5	C752	CCEA1CH101T	CAP , ELECT	100UF 16V	1
....5	C911	CCEA1HKS2R2T	CAP , ELECT	2.2UF 50V SMALL SIZE	1
....5	C912	CCEA0JH102T	CAP , ELECT	1000UF 6.3V	1
....5	C919	CCKT1H102KB	CAP , CERAMIC	1000PF 50V K	1

POWER PCB ASSY

Level	Ref. #	Part Number	Description	Drawing No (Value)	Qty
....5	C920	CCEA1HH470T	CAP , ELECT	47UF 50V	1
....5	C922	KCME2E104JP04T	CAP , METALLIZED FILM (0.1UF/250V)		1
....5	C925	CCME2A103JXT	CAP , METALLIZED FILM (0.01UF/100V)		1
....5	C926	CCME2A103JXT	CAP , METALLIZED FILM (0.01UF/100V)		1
....5	C931	HCQI1H473JZT	CAP , MYLAR	0.047UF 50V J	1
....5	C932	HCQI1H473JZT	CAP , MYLAR	0.047UF 50V J	1
....5	C935	CCBS1H104ZFT	CAP , CERAMIC	0.1UF 50V Z	1
....5	C936	CCBS1H473ZFT	CAP , CERAMIC(47000PF/50V)	CH UP025 F473Z-A-B J	1
....5	C937	CCBS1H473ZFT	CAP , CERAMIC(47000PF/50V)	CH UP025 F473Z-A-B J	1
....5	C938	CCEA1CH101T	CAP , ELECT	100UF 16V	1
....5	C939	CCEA1EH101T	CAP , ELECT	100UF 25V	1
....5	C940	CCEA1EH101T	CAP , ELECT	100UF 25V	1
....5	D114	CVD1N4003ST	DIODE , RECT	1N4003	1
....5	D115	CVD1N4003ST	DIODE , RECT	1N4003	1
....5	D116	CVD1N4003ST	DIODE , RECT	1N4003	1
....5	D117	CVD1N4003ST	DIODE , RECT	1N4003	1
....5	D124	CVD1N4003ST	DIODE , RECT	1N4003	1
....5	D125	CVD1N4003ST	DIODE , RECT	1N4003	1
....5	D801	CVD1SS133MT	DIODE	1SS133	1
....5	D802	CVD1SS133MT	DIODE	1SS133	1
....5	F110	KBA2D5000A2EYT	FUSE(382 Series, 250V, 5A)		1
....5	F111	KBA2D5000A2EYT	FUSE(382 Series, 250V, 5A)		1
....5	Q911	HVTKTA1267YT	T.R	KTA1267Y	1
....5	Q912	HVTKTC3198YT	T.R	KTC3198Y	1
....5	Q913	HVTKTC3198YT	T.R	KTC3198Y	1
....5	R120	CRD20TJ103T	RES , CARBON	10K OHM 1/5W J	1
....5	R750	CRD20TJ103T	RES , CARBON	10K OHM 1/5W J	1
....5	R751	CRD20TJ103T	RES , CARBON	10K OHM 1/5W J	1
....5	R752	CRD20TJ103T	RES , CARBON	10K OHM 1/5W J	1
....5	R901	CRD20TJ272T	RES , CARBON	2.7K OHM 1/5W J	1
....5	R912	CRD20TJ153T	RES , CARBON	15K OHM 1/5W J	1
....5	R913	CRD20TJ153T	RES , CARBON	15K OHM 1/5W J	1
....5	R917	CRD25TJ153T	RES , CARBON (15K OHM)		1
....5	R918	CRD25TJ153T	RES , CARBON (15K OHM)		1
....5	R919	CRD25TJ153T	RES , CARBON (15K OHM)		1
....5	R920	CRD25TJ153T	RES , CARBON (15K OHM)		1
....5	R925	CRD20TJ103T	RES , CARBON	10K OHM 1/5W J	1
....5	R927	CRD20TJ104T	RES , CARBON	100K OHM 1/5W J	1
....5	R928	CRD20TJ333T	RES , CARBON	33K OHM 1/5W J	1
....5	R942	CRD20TJ104T	RES , CARBON	100K OHM 1/5W J	1
...4	BN17	CJP06GB143ZB	FEMALE HEADER(6P, 2.54mm)		1
...4	BN20	CWB1D00715058	WIRE ASS'Y (LOCKING TYPE, 2.5MM, 7PIN, 150MM)		1
...4	BN40	CWB1C903100BM	WIRE ASS'Y		1
...4	BN96	CWB1D00912058	WIRE ASS'Y (LOCKING TYPE, 2.5MM, 9PIN, 120MM)		1
...4	CN11	CJP08GB142ZB	PIN HEADER (08P, 2.54mm) , ANGLE TYPE		1
...4	CN20	CJP05GA90ZY	WAFER , 5P(DIP, 3.96PITCH)		1
...4	CN82	CJP07GI237ZW	LOCKING TYPE , STRAIGHT WAFER, 2.5MM		1
...4	CN96	CJP09GJ243ZW	WAFER (9P LOCK ANGLE 2.5MM)		1
...4	C129	CCEA1EH103E	CAP , ELECT (10000uF/25V,22x30,KR3)	KR3-025V103MM300	1
...4	C450	CCEA1VH471E	CAP , ELECT		1
...4	C929	CCEA1VH222EZ	CAP , ELECT (2200UF/35V, 12.5X31)	KR3-35V222MH1-L/C4.0	1
...4	C930	CCEA1VH222EZ	CAP , ELECT (2200UF/35V, 12.5X31)	KR3-35V222MH1-L/C4.0	1
...4	D701	CVDKBU804FMA	BRIDGE DIODE ASS'Y	KBU804F	1
....5		CMY1A219	HEAT SINK (BRIDGE DIODE)	AVR230/330/4600	1
....5		CTB3+12JR	SCREW		1
....5		HVDKBU804F	DIODE , BRIDGE		1
...4	D991	CVDGBJ1506BIA	DIODE HEAT SINK ASS'Y (CMY2A138)		1
....5		CMY2A138	HEAT SINK		1
....5		CTB3+12JR	SCREW		1
....5		HVDGBJ1506	DIODE, BRIDGE.(600V)	GBJ1506	1
...4	ET01	CMD1A387	BRACKET , PCB		1
...4	ET04	CMD1A736	BRACKET , PCB		1
...4	IC81	CVIKIA7905PI	I.C , REGULATOR(-5V)		1
...4	IC82	HVIKIA7805API	REGULATOR, +5V	7805API (KEC)	1
...4	IC83	CVIKIA278R15PI	I.C , REGULATOR(15V OUTPUT LOW DROP)		1
...4	IC84	CVIKIA7915PI	I.C , REGULATOR(15V, TO-220AB)	KIA7915PI	1
...4	JK75	HJSTORX177L	MODULE , OPTICAL(RX)	TORX177L	1
...4	JK76	HJSTORX177L	MODULE , OPTICAL(RX)	TORX177L	1
...4	JK77	HJSTORX177L	MODULE , OPTICAL(RX)	TORX177L	1
...4	JK99	CJJ9B001Z	JACK, DC POWER (3PIN / 1.GND 2.OPEN 3.DC POWER)	DS-201S-3	1
...4	R104	KRQ1AJR47H	RES , FUSE	0.47 OHM 1W J	1
...4	R105	KRQ1AJR47H	RES , FUSE	0.47 OHM 1W J	1

VIDEO PCB ASSY

Level	Ref. #	Part Number	Description	Drawing No (Value)	Qty
..3		**COP12175D**	**AVR3600 VIDEO PCB ASS'Y**		**1**
....5	C401	CCBS1H101KBT	CAP , CERAMIC(100PF/50V)	CH UP025 B101K-A-B Z	1
....5	C404	CCEA0JH102T	CAP , ELECT	1000UF 6.3V	1
....5	C411	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C421	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C451	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C491	CCBS1H101KBT	CAP , CERAMIC(100PF/50V)	CH UP025 B101K-A-B Z	1
....5	C601	CCBS1H220JCT	CAP , CERAMIC(22PF/50V)	CH UP025CH220J-A-B Z	1
....5	C602	CCEA0JH102T	CAP , ELECT	1000UF 6.3V	1
....5	C603	CCBS1H220JCT	CAP , CERAMIC(22PF/50V)	CH UP025CH220J-A-B Z	1
....5	C604	CCEA0JH102T	CAP , ELECT	1000UF 6.3V	1
....5	C605	CCBS1H220JCT	CAP , CERAMIC(22PF/50V)	CH UP025CH220J-A-B Z	1
....5	C606	CCEA0JH102T	CAP , ELECT	1000UF 6.3V	1
....5	C611	CCBS1H220JCT	CAP , CERAMIC(22PF/50V)	CH UP025CH220J-A-B Z	1
....5	C613	CCBS1H220JCT	CAP , CERAMIC(22PF/50V)	CH UP025CH220J-A-B Z	1
....5	C615	CCBS1H220JCT	CAP , CERAMIC(22PF/50V)	CH UP025CH220J-A-B Z	1
....5	C621	CCBS1H220JCT	CAP , CERAMIC(22PF/50V)	CH UP025CH220J-A-B Z	1

VIDEO PCB ASSY

Level	Ref. #	Part Number	Description	Drawing No (Value)	Qty
....5	C623	CCBS1H220JCT	CAP , CERAMIC(22PF/50V)	CH UP025CH220J-A-B Z	1
....5	C625	CCBS1H220JCT	CAP , CERAMIC(22PF/50V)	CH UP025CH220J-A-B Z	1
....5	R411	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	1
....5	R421	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	1
....5	R451	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	1
....5	R491	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	1
....5	R611	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	1
....5	R612	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	1
....5	R613	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	1
....5	R621	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	1
....5	R622	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	1
....5	R623	CRD20TJ750T	RES , CARBON	75 OHM 1/5W J	1
...4	BN56	CJP16GB142ZB	PIN , HEADER (16PIN, 2.54mm, ANGLE)		1
...4	BN57	CJP06GB142ZB	PIN HEADER(6P, 2.54mm)		1
...4	JK40	CJJ4N043Z	JACK , BOARD		1
...4	JK41	CJJ4N043Z	JACK , BOARD		1
...4	JK42	CJJ4R045Z	JACK , BOARD		1
...4	JK43	CJJ4S030Z	JACK , BOARD	3P,G/B/R,SILVER	1
...4	JK44	CJJ4M049Y	JACK , RCA(1P,RCA-115A-05)		1

INPUT PCB ASSY

Level	Ref. #	Part Number	Description	Drawing No (Value)	Qty
..3		**COP12177G**	**AVR460 INPUT PCB ASS'Y**		**1**
....6	CN15	CJP17GA193ZY	WAFER, CARD CABLE (SMD)		1
....6	C203	CCUS1H471JA	CAP , CHIP	470PF 50V J	1
....6	C204	CCUS1H471JA	CAP , CHIP	470PF 50V J	1
....6	C205	CCUS1H471JA	CAP , CHIP	470PF 50V J	1
....6	C206	CCUS1H471JA	CAP , CHIP	470PF 50V J	1
....6	C207	CCUS1H471JA	CAP , CHIP	470PF 50V J	1
....6	C208	CCUS1H471JA	CAP , CHIP	470PF 50V J	1
....6	C209	CCUS1H471JA	CAP , CHIP	470PF 50V J	1
....6	C210	CCUS1H471JA	CAP , CHIP	470PF 50V J	1
....6	C211	CCUS1H471JA	CAP , CHIP	470PF 50V J	1
....6	C212	CCUS1H471JA	CAP , CHIP	470PF 50V J	1
....6	C213	CCUS1H471JA	CAP , CHIP	470PF 50V J	1
....6	C214	CCUS1H471JA	CAP , CHIP	470PF 50V J	1
....6	C215	CCUS1H471JA	CAP , CHIP	470PF 50V J	1
....6	C216	CCUS1H471JA	CAP , CHIP	470PF 50V J	1
....6	C219	CCUS1H471JA	CAP , CHIP	470PF 50V J	1
....6	C220	CCUS1H471JA	CAP , CHIP	470PF 50V J	1
....6	C221	CCUS1H471JA	CAP , CHIP	470PF 50V J	1
....6	C222	CCUS1H471JA	CAP , CHIP	470PF 50V J	1
....6	C223	CCUS1H471JA	CAP , CHIP	470PF 50V J	1
....6	C224	CCUS1H221JA	CAP , CHIP	220PF 50V J	1
....6	C225	CCUS1H471JA	CAP , CHIP	470PF 50V J	1
....6	C226	CCUS1H471JA	CAP , CHIP	470PF 50V J	1
....6	C227	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C228	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C229	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C230	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C260	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C274	CCUS1A105KC	CAP , CHIP	1UF 10V K	1
....6	C275	CCSNA1C100B	CAP , CHIP TANTAL(10uF/16V, NingXia XingRi)	XRCA45 XXX M XXX AT	1
....6	C276	CCSNA1C100B	CAP , CHIP TANTAL(10uF/16V, NingXia XingRi)	XRCA45 XXX M XXX AT	1
....6	C277	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C278	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C279	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C280	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C289	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C290	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C291	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C293	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C295	CCUS1H272KC	CAP , CHIP	2700PF 50V K	1
....6	C296	CCUS1H272KC	CAP , CHIP	2700PF 50V K	1
....6	C299	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C301	CCUS1H152KC	CAP , CHIP	1500PF 50V K	1
....6	C302	CCUS1H152KC	CAP , CHIP	1500PF 50V K	1
....6	C303	CCUS1H152KC	CAP , CHIP	1500PF 50V K	1
....6	C304	CCUS1H152KC	CAP , CHIP	1500PF 50V K	1
....6	C305	CCUS1H152KC	CAP , CHIP	1500PF 50V K	1
....6	C306	CCUS1H152KC	CAP , CHIP	1500PF 50V K	1
....6	C307	CCUS1H152KC	CAP , CHIP	1500PF 50V K	1
....6	C308	CCUS1H152KC	CAP , CHIP	1500PF 50V K	1
....6	C309	CCUS1H102KC	CAP , CHIP	1000PF 50V K	1
....6	C310	CCUS1H102KC	CAP , CHIP	1000PF 50V K	1
....6	C311	CCUS1H102KC	CAP , CHIP	1000PF 50V K	1
....6	C312	CCUS1H102KC	CAP , CHIP	1000PF 50V K	1
....6	C313	CCUS1H102KC	CAP , CHIP	1000PF 50V K	1
....6	C314	CCUS1H102KC	CAP , CHIP	1000PF 50V K	1
....6	C315	CCUS1H102KC	CAP , CHIP	1000PF 50V K	1
....6	C316	CCUS1H102KC	CAP , CHIP	1000PF 50V K	1
....6	C317	CCUS1H223KC	CAP , CHIP	0.022UF 50V K	1
....6	C318	CCUS1H223KC	CAP , CHIP	0.022UF 50V K	1
....6	C319	CCUS1H223KC	CAP , CHIP	0.022UF 50V K	1
....6	C320	CCUS1H223KC	CAP , CHIP	0.022UF 50V K	1
....6	C321	CCUS1H561JA	CAP , CHIP	560PF 50V J	1
....6	C322	CCUS1H561JA	CAP , CHIP	560PF 50V J	1
....6	C323	CCUS1H561JA	CAP , CHIP	560PF 50V J	1
....6	C324	CCUS1H561JA	CAP , CHIP	560PF 50V J	1
....6	C325	CCUS1H561JA	CAP , CHIP	560PF 50V J	1
....6	C326	CCUS1H561JA	CAP , CHIP	560PF 50V J	1
....6	C327	CCUS1H561JA	CAP , CHIP	560PF 50V J	1

INPUT PCB ASSY					
Level	Ref. #	Part Number	Description	Drawing No (Value)	Qty
....6	C328	CCUS1H561JA	CAP , CHIP	560PF 50V J	1
....6	C329	CCUS1H561JA	CAP , CHIP	560PF 50V J	1
....6	C330	CCUS1H561JA	CAP , CHIP	560PF 50V J	1
....6	C331	CCUS1H561JA	CAP , CHIP	560PF 50V J	1
....6	C332	CCUS1H561JA	CAP , CHIP	560PF 50V J	1
....6	C333	CCUS1H561JA	CAP , CHIP	560PF 50V J	1
....6	C334	CCUS1H561JA	CAP , CHIP	560PF 50V J	1
....6	C335	CCUS1H561JA	CAP , CHIP	560PF 50V J	1
....6	C336	CCUS1H561JA	CAP , CHIP	560PF 50V J	1
....6	C337	CCUS1H223KC	CAP , CHIP	0.022UF 50V K	1
....6	C338	CCUS1H223KC	CAP , CHIP	0.022UF 50V K	1
....6	C339	CCUS1H223KC	CAP , CHIP	0.022UF 50V K	1
....6	C340	CCUS1H223KC	CAP , CHIP	0.022UF 50V K	1
....6	C350	CCUS1H102KC	CAP , CHIP	1000PF 50V K	1
....6	C351	CCUS1H102KC	CAP , CHIP	1000PF 50V K	1
....6	C352	CCUS1H102KC	CAP , CHIP	1000PF 50V K	1
....6	C353	CCUS1H102KC	CAP , CHIP	1000PF 50V K	1
....6	C354	CCUS1H102KC	CAP , CHIP	1000PF 50V K	1
....6	C355	CCUS1H102KC	CAP , CHIP	1000PF 50V K	1
....6	C356	CCUS1H102KC	CAP , CHIP	1000PF 50V K	1
....6	C357	CCUS1H102KC	CAP , CHIP	1000PF 50V K	1
....6	C358	CCUS1H392KC	CAP , CHIP CERAMIC(1608, 3900p)	3900PF 50V K	1
....6	C359	CCUS1H822KC	CAP , CHIP(8200pF/50V,1608 SIZE)	0603B822K101B	1
....6	C362	CCUS1H223KC	CAP , CHIP	0.022UF 50V K	1
....6	C363	CCUS1H103KC	CAP , CHIP	0.01UF 50V K	1
....6	C364	CCUS1H392KC	CAP , CHIP CERAMIC(1608, 3900p)	3900PF 50V K	1
....6	C365	CCUS1H822KC	CAP , CHIP(8200pF/50V,1608 SIZE)	0603B822K101B	1
....6	C369	CCUS1H223KC	CAP , CHIP	0.022UF 50V K	1
....6	C370	CCUS1H223KC	CAP , CHIP	0.022UF 50V K	1
....6	C381	CCUS1H223KC	CAP , CHIP	0.022UF 50V K	1
....6	C382	CCUS1H223KC	CAP , CHIP	0.022UF 50V K	1
....6	C383	CCUS1H223KC	CAP , CHIP	0.022UF 50V K	1
....6	C384	CCUS1H223KC	CAP , CHIP	0.022UF 50V K	1
....6	C385	CCUS1H223KC	CAP , CHIP	0.022UF 50V K	1
....6	C386	CCUS1H223KC	CAP , CHIP	0.022UF 50V K	1
....6	C387	CCUS1H223KC	CAP , CHIP	0.022UF 50V K	1
....6	C388	CCUS1H223KC	CAP , CHIP	0.022UF 50V K	1
....6	C391	CCUS1H151JA	CAP , CHIP	150PF 50V J	1
....6	C392	CCUS1H151JA	CAP , CHIP	150PF 50V J	1
....6	C393	CCUS1H151JA	CAP , CHIP	150PF 50V J	1
....6	C394	CCUS1H102KC	CAP , CHIP	1000PF 50V K	1
....6	C395	CCUS1H151JA	CAP , CHIP	150PF 50V J	1
....6	C396	CCUS1H151JA	CAP , CHIP	150PF 50V J	1
....6	C397	CCUS1H151JA	CAP , CHIP	150PF 50V J	1
....6	C398	CCUS1H151JA	CAP , CHIP	150PF 50V J	1
....6	C412	CCUS1H223KC	CAP , CHIP	0.022UF 50V K	1
....6	C413	CCUS1H223KC	CAP , CHIP	0.022UF 50V K	1
....6	C428	CCUS1H151JA	CAP , CHIP	150PF 50V J	1
....6	C442	CCUS1H151JA	CAP , CHIP	150PF 50V J	1
....6	C448	CCUS1H331JA	CAP , CHIP	330PF 50V J	1
....6	C467	CCUS1A105KC	CAP , CHIP	1UF 10V K	1
....6	C468	CCUS1A105KC	CAP , CHIP	1UF 10V K	1
....6	C469	CCUS1A105KC	CAP , CHIP	1UF 10V K	1
....6	C470	CCUS1A105KC	CAP , CHIP	1UF 10V K	1
....6	C476	CCUS1H101JA	CAP , CHIP	100PF 50V J	1
....6	C477	CCUS1H101JA	CAP , CHIP	100PF 50V J	1
....6	C478	CCUS1A105KC	CAP , CHIP	1UF 10V K	1
....6	C479	CCUS1A105KC	CAP , CHIP	1UF 10V K	1
....6	C532	CCUS1H182KC	CAP , CHIP(1800PF/50V/1608/X7R)	1800PF 50V K	1
....6	C534	CCUS1H182KC	CAP , CHIP(1800PF/50V/1608/X7R)	1800PF 50V K	1
....6	C535	CCUS1H182KC	CAP , CHIP(1800PF/50V/1608/X7R)	1800PF 50V K	1
....6	C536	CCUS1H182KC	CAP , CHIP(1800PF/50V/1608/X7R)	1800PF 50V K	1
....6	C537	CCUS1H182KC	CAP , CHIP(1800PF/50V/1608/X7R)	1800PF 50V K	1
....6	C538	CCUS1H182KC	CAP , CHIP(1800PF/50V/1608/X7R)	1800PF 50V K	1
....6	C539	CCUS1H182KC	CAP , CHIP(1800PF/50V/1608/X7R)	1800PF 50V K	1
....6	C540	CCUS1H182KC	CAP , CHIP(1800PF/50V/1608/X7R)	1800PF 50V K	1
....6	C601	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C603	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C605	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C607	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C609	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C610	CCUS1H150JA	CAP , CHIP(15PF/50V)	15PF 50V J	1
....6	C611	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C613	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C615	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C617	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C619	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C621	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C623	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C625	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C627	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C629	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C631	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C641	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C642	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C643	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C644	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C645	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C646	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C647	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C648	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C649	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C650	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1

INPUT PCB ASSY					
Level	Ref. #	Part Number	Description	Drawing No (Value)	Qty
....6	C651	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C652	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C653	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C654	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C655	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C656	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C657	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C658	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C659	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C701	CCUS1H150JA	CAP , CHIP(15PF/50V)	15PF 50V J	1
....6	C702	CCUS1H150JA	CAP , CHIP(15PF/50V)	15PF 50V J	1
....6	C704	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C705	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C707	CCUS1H102KC	CAP , CHIP	1000PF 50V K	1
....6	C708	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C716	CCUS1H151JA	CAP , CHIP	150PF 50V J	1
....6	C718	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C719	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C722	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C723	CCUS1H473KC	CAP , CHIP	0.047UF 50V K	1
....6	C725	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C727	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C729	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C731	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C733	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C734	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C738	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C739	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C741	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C742	CCUS1H300JA	CAP , CHIP (30PF)		1
....6	C743	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C744	CCUS1H330JA	CAP , CHIP	33PF 50V J	1
....6	C745	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C746	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C747	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C748	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C751	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C754	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C756	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C758	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C759	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C760	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C761	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C762	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C763	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C765	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C767	CCUS1A105KC	CAP , CHIP	1UF 10V K	1
....6	C768	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C769	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C770	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C771	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C772	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C773	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C778	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C780	CCUS1H102KC	CAP , CHIP	1000PF 50V K	1
....6	C781	CCUS1H223KC	CAP , CHIP	0.022UF 50V K	1
....6	C782	CCUS1H103KC	CAP , CHIP	0.01UF 50V K	1
....6	C783	CCUS1H103KC	CAP , CHIP	0.01UF 50V K	1
....6	C784	CCUS1H103KC	CAP , CHIP	0.01UF 50V K	1
....6	C787	CCUS1H103KC	CAP , CHIP	0.01UF 50V K	1
....6	C789	CCUS1H103KC	CAP , CHIP	0.01UF 50V K	1
....6	C790	CCUS1H103KC	CAP , CHIP	0.01UF 50V K	1
....6	C791	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C793	CCUS1H101JA	CAP , CHIP	100PF 50V J	1
....6	C794	CCUS1H181JA	CAP , CHIP	180PF 50V J	1
....6	C795	CCUS1H181JA	CAP , CHIP	180PF 50V J	1
....6	C796	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C797	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C798	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C820	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	D201	CVD1SS355T	DIODE , CHIP		1
....6	D202	CVD1SS355T	DIODE , CHIP		1
....6	D203	CVD1SS355T	DIODE , CHIP		1
....6	D204	CVD1SS355T	DIODE , CHIP		1
....6	D205	CVD1SS355T	DIODE , CHIP		1
....6	D206	CVD1SS355T	DIODE , CHIP		1
....6	D207	CVD1SS355T	DIODE , CHIP		1
....6	D208	CVD1SS355T	DIODE , CHIP		1
....6	D209	CVD1SS355T	DIODE , CHIP		1
....6	D210	CVD1SS355T	DIODE , CHIP		1
....6	D211	CVD1SS355T	DIODE , CHIP		1
....6	D212	CVD1SS355T	DIODE , CHIP		1
....6	D213	CVD1SS355T	DIODE , CHIP		1
....6	D214	CVD1SS355T	DIODE , CHIP		1
....6	D215	CVD1SS355T	DIODE , CHIP		1
....6	D216	CVD1SS355T	DIODE , CHIP		1
....6	D442	CVD1SS355T	DIODE , CHIP		1
....6	D476	CVD1SS355T	DIODE , CHIP		1
....6	D701	HVDRLS4148SR	DIODE, SWITCHING, SMD TYPE	RLS4148 TE-11	1
....6	D704	CVDSS34SR	DIODE , SCHOTTKY (40V,3A, DO-214AC) DELTA		1
....6	D725	CVD1SS355T	DIODE , CHIP		1
....6	D727	CVD1SS355T	DIODE , CHIP		1
....6	IC20	CVINJW1298FU1	I.C , VOL WITH INPUT SELECTOR (JRC)		1

INPUT PCB ASSY					
Level	Ref. #	Part Number	Description	Drawing No (Value)	Qty
....6	IC21	HVINJM2068MTE1	I.C , OP AMP (JRC)	NJM2068M-TE1	1
....6	IC22	HVINJM2068MTE1	I.C , OP AMP (JRC)	NJM2068M-TE1	1
....6	IC23	HVINJM2068MTE1	I.C , OP AMP (JRC)	NJM2068M-TE1	1
....6	IC24	HVINJM2068MTE1	I.C , OP AMP (JRC)	NJM2068M-TE1	1
....6	IC25	HVINJM2068MTE1	I.C , OP AMP (JRC)	NJM2068M-TE1	1
....6	IC26	HVINJM2068MTE1	I.C , OP AMP (JRC)	NJM2068M-TE1	1
....6	IC28	HVINJW1159M	I.C , VOLUME (2-CH)		1
....6	IC29	HVINJM2068MTE1	I.C , OP AMP (JRC)	NJM2068M-TE1	1
....6	IC31	HVINJM2068MTE1	I.C , OP AMP (JRC)	NJM2068M-TE1	1
....6	IC32	HVINJM2068MTE1	I.C , OP AMP (JRC)	NJM2068M-TE1	1
....6	IC33	HVINJM2068MTE1	I.C , OP AMP (JRC)	NJM2068M-TE1	1
....6	IC34	HVINJM2068MTE1	I.C , OP AMP (JRC)	NJM2068M-TE1	1
....6	IC40	HVITC74HCU04AFN	IC , INVERTER	TC74HCU04AFN	1
....6	IC41	HVICS42528-CQ	I.C , CODEC + DIR (CIRRUS LOGIC)	CS42528-CQ	1
....6	IC42	CVIF25L008A50PAG	I.C , 8Mbit SPI Serial FLASH (50MHz/8lead SOIC)	F25L008A-50PAG	1
....6	IC43	CVICS497024CVZ	I.C , DSP (CIRRUS LOGIC)		1
....6	IC44	CVIM12L16161A5TG	I.C, 16MB SDRAM (ESMT)		1
....6	IC45	CVIF25L004A100PAG	I.C , 4M FLASH(8PIN SOIC)	F25L004A100PAG	1
....6	IC46	CVICS49DV8CCVZ	I.C , DSP (DOLBY VOLUME) CIRRUS LOGIC		1
....6	IC47	CVITC74VCX541FT	I,C , OCTAL BUS BUFFER (TOSHIBA)		1
....6	IC48	HVITC74VHC157FT	I.C , 2-CHANNEL MUX (TOSHIBA)		1
....6	IC49	HVINJM2391DL133	I.C , CHIP REGULATOR (+3.3V) JRC		1
....6	IC50	CVIKIA1117S18	I.C , REGULATOR(SOT-223)	KIA1117S/F18, SOT-223	1
....6	IC51	CVIKIA1117S33	I.C , REGULATOR(SOT-223)	KIA1117S/F33, SOT-223	1
....6	IC52	CVIANAM1459AT	I.C , U-COM (AVR2600/AVR3600)		1
....7		CVIT5CN5	I.C , U-COM (512KB/32KB, LQFP100P) TOSHIBA		1
....6	IC53	CVIM24C32WMN6TP	I.C , EEPROM (32 Kbit) ST		1
....6	L604	CLZ9R005Z	FERRITE , CHIP BEAD(60ohm, 1608)	HCB1608KF-600T30	1
....6	L701	CLZ9Z014Z	FERRITE , CHIP BEAD(60ohm, 4516)	HCB4516KF-600T60	1
....6	L702	CLZ9Z014Z	FERRITE , CHIP BEAD(60ohm, 4516)	HCB4516KF-600T60	1
....6	L703	CLZ9Z014Z	FERRITE , CHIP BEAD(60ohm, 4516)	HCB4516KF-600T60	1
....6	L704	CLZ9R005Z	FERRITE , CHIP BEAD(60ohm, 1608)	HCB1608KF-600T30	1
....6	L705	CLZ9R005Z	FERRITE , CHIP BEAD(60ohm, 1608)	HCB1608KF-600T30	1
....6	Q301	HVTKTC812TB	T.R , CHIP(TS6)	KTC812T-B-RTK	1
....6	Q302	HVTKTC812TB	T.R , CHIP(TS6)	KTC812T-B-RTK	1
....6	Q303	HVTKTC812TB	T.R , CHIP(TS6)	KTC812T-B-RTK	1
....6	Q304	HVTKTC812TB	T.R , CHIP(TS6)	KTC812T-B-RTK	1
....6	Q305	HVTKTC812TB	T.R , CHIP(TS6)	KTC812T-B-RTK	1
....6	Q306	HVTKTC812TB	T.R , CHIP(TS6)	KTC812T-B-RTK	1
....6	Q307	HVTKRA107S	TR, CHIP		1
....6	Q401	HVTKTC812TB	T.R , CHIP(TS6)	KTC812T-B-RTK	1
....6	Q402	HVTKTC812TB	T.R , CHIP(TS6)	KTC812T-B-RTK	1
....6	Q456	HVTKRA107S	TR, CHIP		1
....6	Q729	HVTKRC107S	T.R , CHIP		1
....6	Q730	HVTKRC107S	T.R , CHIP		1
....6	Q732	HVTKRC107S	T.R , CHIP		1
....6	Q734	HVTKRC107S	T.R , CHIP		1
....6	Q735	HVTKRA107S	TR, CHIP		1
....6	Q736	HVTKRA107S	TR, CHIP		1
....6	Q738	CVTKRC103S	T.R , CHIP		1
....6	Q739	HVTKRA107S	TR, CHIP		1
....6	Q741	HVTKRC107S	T.R , CHIP		1
....6	Q742	HVTKRA107S	TR, CHIP		1
....6	Q951	HVTKRC107S	T.R , CHIP		1
....6	Q952	HVTKRA107S	TR, CHIP		1
....6	Q991	HVTKRC107S	T.R , CHIP		1
....6	Q992	HVTKRA107S	TR, CHIP		1
....6	Q993	HVTKRA107S	TR, CHIP		1
....6	Q994	HVTKRC107S	T.R , CHIP		1
....6	Q997	HVTKRA107S	TR, CHIP		1
....6	Q998	HVTKRC107S	T.R , CHIP		1
....6	RN53	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4	1
....6	RN54	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4	1
....6	RN61	CRJ104DJ103T	RES, ARRAY, 10K (1608)	10K(1608)	1
....6	RN62	CRJ104DJ103T	RES, ARRAY, 10K (1608)	10K(1608)	1
....6	RN63	CRJ104DJ103T	RES, ARRAY, 10K (1608)	10K(1608)	1
....6	RN64	CRJ104DJ101T	RES , CHIP NETWORK(1/16W, 100ohm, 1608X4)	100R (1608)	1
....6	RN65	CRJ104DJ101T	RES , CHIP NETWORK(1/16W, 100ohm, 1608X4)	100R (1608)	1
....6	RN66	CRJ104DJ101T	RES , CHIP NETWORK(1/16W, 100ohm, 1608X4)	100R (1608)	1
....6	RN67	CRJ104DJ101T	RES , CHIP NETWORK(1/16W, 100ohm, 1608X4)	100R (1608)	1
....6	RN68	CRJ104DJ103T	RES, ARRAY, 10K (1608)	10K(1608)	1
....6	RN76	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4	1
....6	RN77	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4	1
....6	RN78	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4	1
....6	RN79	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4	1
....6	RN81	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4	1
....6	RN82	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4	1
....6	RN83	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4	1
....6	RN84	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4	1
....6	RN85	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4	1
....6	RN87	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4	1
....6	RN89	CRJ104DJ103T	RES, ARRAY, 10K (1608)	10K(1608)	1
....6	RN90	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4	1
....6	RN91	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4	1
....6	RN92	CRJ104DJ101T	RES , CHIP NETWORK(1/16W, 100ohm, 1608X4)	100R (1608)	1
....6	RN93	CRJ104DJ330T	RES , 4ARRAY (1608*4)	33 OHM/1608*4	1
....6	R203	CRJ10DJ221T	RES , CHIP (220 OHM)	1608 SIZE	1
....6	R204	CRJ10DJ221T	RES , CHIP (220 OHM)	1608 SIZE	1
....6	R205	CRJ10DJ221T	RES , CHIP (220 OHM)	1608 SIZE	1
....6	R206	CRJ10DJ221T	RES , CHIP (220 OHM)	1608 SIZE	1
....6	R207	CRJ10DJ221T	RES , CHIP (220 OHM)	1608 SIZE	1
....6	R208	CRJ10DJ221T	RES , CHIP (220 OHM)	1608 SIZE	1
....6	R209	CRJ10DJ221T	RES , CHIP (220 OHM)	1608 SIZE	1

INPUT PCB ASSY					
Level	Ref. #	Part Number	Description	Drawing No (Value)	Qty
....6	R210	CRJ10DJ221T	RES , CHIP (220 OHM)	1608 SIZE	1
....6	R211	CRJ10DJ221T	RES , CHIP (220 OHM)	1608 SIZE	1
....6	R212	CRJ10DJ221T	RES , CHIP (220 OHM)	1608 SIZE	1
....6	R213	CRJ10DJ221T	RES , CHIP (220 OHM)	1608 SIZE	1
....6	R214	CRJ10DJ221T	RES , CHIP (220 OHM)	1608 SIZE	1
....6	R215	CRJ10DJ221T	RES , CHIP (220 OHM)	1608 SIZE	1
....6	R216	CRJ10DJ221T	RES , CHIP (220 OHM)	1608 SIZE	1
....6	R219	CRJ10DJ221T	RES , CHIP (220 OHM)	1608 SIZE	1
....6	R220	CRJ10DJ221T	RES , CHIP (220 OHM)	1608 SIZE	1
....6	R221	CRJ10DJ221T	RES , CHIP (220 OHM)	1608 SIZE	1
....6	R222	CRJ10DJ221T	RES , CHIP (220 OHM)	1608 SIZE	1
....6	R223	CRJ10DJ221T	RES , CHIP (220 OHM)	1608 SIZE	1
....6	R224	CRJ10DJ272T	RES , CHIP (2.7K OHM)	1608 SIZE	1
....6	R225	CRJ10DJ221T	RES , CHIP (220 OHM)	1608 SIZE	1
....6	R226	CRJ10DJ221T	RES , CHIP (220 OHM)	1608 SIZE	1
....6	R229	CRJ10DJ104T	RES , CHIP (100K OHM)	1608 SIZE	1
....6	R230	CRJ10DJ104T	RES , CHIP (100K OHM)	1608 SIZE	1
....6	R231	CRJ10DJ104T	RES , CHIP (100K OHM)	1608 SIZE	1
....6	R232	CRJ10DJ104T	RES , CHIP (100K OHM)	1608 SIZE	1
....6	R233	CRJ10DJ104T	RES , CHIP (100K OHM)	1608 SIZE	1
....6	R234	CRJ10DJ104T	RES , CHIP (100K OHM)	1608 SIZE	1
....6	R235	CRJ10DJ104T	RES , CHIP (100K OHM)	1608 SIZE	1
....6	R236	CRJ10DJ104T	RES , CHIP (100K OHM)	1608 SIZE	1
....6	R237	CRJ10DJ104T	RES , CHIP (100K OHM)	1608 SIZE	1
....6	R238	CRJ10DJ104T	RES , CHIP (100K OHM)	1608 SIZE	1
....6	R239	CRJ10DJ104T	RES , CHIP (100K OHM)	1608 SIZE	1
....6	R240	CRJ10DJ104T	RES , CHIP (100K OHM)	1608 SIZE	1
....6	R241	CRJ10DJ104T	RES , CHIP (100K OHM)	1608 SIZE	1
....6	R242	CRJ10DJ104T	RES , CHIP (100K OHM)	1608 SIZE	1
....6	R245	CRJ10DJ104T	RES , CHIP (100K OHM)	1608 SIZE	1
....6	R246	CRJ10DJ104T	RES , CHIP (100K OHM)	1608 SIZE	1
....6	R247	CRJ10DJ104T	RES , CHIP (100K OHM)	1608 SIZE	1
....6	R248	CRJ10DJ104T	RES , CHIP (100K OHM)	1608 SIZE	1
....6	R249	CRJ10DJ104T	RES , CHIP (100K OHM)	1608 SIZE	1
....6	R250	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....6	R251	CRJ10DJ104T	RES , CHIP (100K OHM)	1608 SIZE	1
....6	R252	CRJ10DJ104T	RES , CHIP (100K OHM)	1608 SIZE	1
....6	R253	CRJ10DJ4R7T	RES , CHIP (4.7 OHM)	1608 SIZE	1
....6	R254	CRJ10DJ4R7T	RES , CHIP (4.7 OHM)	1608 SIZE	1
....6	R255	CRJ10DJ4R7T	RES , CHIP (4.7 OHM)	1608 SIZE	1
....6	R256	CRJ10DJ4R7T	RES , CHIP (4.7 OHM)	1608 SIZE	1
....6	R257	CRJ10DJ4R7T	RES , CHIP (4.7 OHM)	1608 SIZE	1
....6	R258	CRJ10DJ4R7T	RES , CHIP (4.7 OHM)	1608 SIZE	1
....6	R259	CRJ10DJ4R7T	RES , CHIP (4.7 OHM)	1608 SIZE	1
....6	R260	CRJ10DJ4R7T	RES , CHIP (4.7 OHM)	1608 SIZE	1
....6	R261	CRJ10DJ184T	RES , CHIP (180K OHM)	1608 SIZE	1
....6	R262	CRJ10DJ184T	RES , CHIP (180K OHM)	1608 SIZE	1
....6	R263	CRJ10DJ184T	RES , CHIP (180K OHM)	1608 SIZE	1
....6	R264	CRJ10DJ184T	RES , CHIP (180K OHM)	1608 SIZE	1
....6	R265	CRJ10DJ184T	RES , CHIP (180K OHM)	1608 SIZE	1
....6	R266	CRJ10DJ184T	RES , CHIP (180K OHM)	1608 SIZE	1
....6	R267	CRJ10DJ184T	RES , CHIP (180K OHM)	1608 SIZE	1
....6	R268	CRJ10DJ184T	RES , CHIP (180K OHM)	1608 SIZE	1
....6	R271	CRJ10DJ242T	RES , CHIP (2.4K OHM)	1608 SIZE	1
....6	R272	CRJ10DJ242T	RES , CHIP (2.4K OHM)	1608 SIZE	1
....6	R273	CRJ10DJ242T	RES , CHIP (2.4K OHM)	1608 SIZE	1
....6	R274	CRJ10DJ222T	RES , CHIP (2.2K OHM)	1608 SIZE	1
....6	R275	CRJ10DJ242T	RES , CHIP (2.4K OHM)	1608 SIZE	1
....6	R276	CRJ10DJ242T	RES , CHIP (2.4K OHM)	1608 SIZE	1
....6	R277	CRJ10DJ242T	RES , CHIP (2.4K OHM)	1608 SIZE	1
....6	R278	CRJ10DJ242T	RES , CHIP (2.4K OHM)	1608 SIZE	1
....6	R279	CRJ10DJ101T	RES , CHIP (100 OHM)	1608 SIZE	1
....6	R280	CRJ10DJ101T	RES , CHIP (100 OHM)	1608 SIZE	1
....6	R281	CRJ10DJ512T	RES , CHIP (5.1K OHM)	1608 SIZE	1
....6	R282	CRJ10DJ512T	RES , CHIP (5.1K OHM)	1608 SIZE	1
....6	R283	CRJ10DJ512T	RES , CHIP (5.1K OHM)	1608 SIZE	1
....6	R284	CRJ10DJ912T	RES , CHIP	9.1K OHM/1608	1
....6	R285	CRJ10DJ512T	RES , CHIP (5.1K OHM)	1608 SIZE	1
....6	R286	CRJ10DJ512T	RES , CHIP (5.1K OHM)	1608 SIZE	1
....6	R287	CRJ10DJ512T	RES , CHIP (5.1K OHM)	1608 SIZE	1
....6	R288	CRJ10DJ512T	RES , CHIP (5.1K OHM)	1608 SIZE	1
....6	R289	CRJ10DJ101T	RES , CHIP (100 OHM)	1608 SIZE	1
....6	R290	CRJ10DJ101T	RES , CHIP (100 OHM)	1608 SIZE	1
....6	R291	CRJ10DJ184T	RES , CHIP (180K OHM)	1608 SIZE	1
....6	R292	CRJ10DJ184T	RES , CHIP (180K OHM)	1608 SIZE	1
....6	R293	CRJ10DJ184T	RES , CHIP (180K OHM)	1608 SIZE	1
....6	R294	CRJ10DJ184T	RES , CHIP (180K OHM)	1608 SIZE	1
....6	R295	CRJ10DJ184T	RES , CHIP (180K OHM)	1608 SIZE	1
....6	R296	CRJ10DJ184T	RES , CHIP (180K OHM)	1608 SIZE	1
....6	R297	CRJ10DJ184T	RES , CHIP (180K OHM)	1608 SIZE	1
....6	R298	CRJ10DJ184T	RES , CHIP (180K OHM)	1608 SIZE	1
....6	R301	CRJ10DJ122T	RES , CHIP (1.2K OHM)	1608 SIZE	1
....6	R302	CRJ10DJ122T	RES , CHIP (1.2K OHM)	1608 SIZE	1
....6	R303	CRJ10DJ122T	RES , CHIP (1.2K OHM)	1608 SIZE	1
....6	R304	CRJ10DJ122T	RES , CHIP (1.2K OHM)	1608 SIZE	1
....6	R305	CRJ10DJ272T	RES , CHIP (2.7K OHM)	1608 SIZE	1
....6	R306	CRJ10DJ272T	RES , CHIP (2.7K OHM)	1608 SIZE	1
....6	R307	CRJ10DJ272T	RES , CHIP (2.7K OHM)	1608 SIZE	1
....6	R308	CRJ10DJ272T	RES , CHIP (2.7K OHM)	1608 SIZE	1
....6	R309	CRJ10DJ272T	RES , CHIP (2.7K OHM)	1608 SIZE	1
....6	R310	CRJ10DJ272T	RES , CHIP (2.7K OHM)	1608 SIZE	1
....6	R311	CRJ10DJ272T	RES , CHIP (2.7K OHM)	1608 SIZE	1
....6	R312	CRJ10DJ272T	RES , CHIP (2.7K OHM)	1608 SIZE	1

INPUT PCB ASSY					
Level	Ref. #	Part Number	Description	Drawing No (Value)	Qty
....6	R313	CRJ10DJ272T	RES , CHIP (2.7K OHM)	1608 SIZE	1
....6	R314	CRJ10DJ272T	RES , CHIP (2.7K OHM)	1608 SIZE	1
....6	R315	CRJ10DJ272T	RES , CHIP (2.7K OHM)	1608 SIZE	1
....6	R316	CRJ10DJ272T	RES , CHIP (2.7K OHM)	1608 SIZE	1
....6	R317	CRJ10DJ561T	RES , CHIP		1
....6	R318	CRJ10DJ392T	RES . CHIP (3.9K OHM)		1
....6	R319	CRJ10DJ561T	RES , CHIP		1
....6	R321	CRJ10DJ512T	RES , CHIP (5.1K OHM)	1608 SIZE	1
....6	R322	CRJ10DJ122T	RES , CHIP (1.2K OHM)	1608 SIZE	1
....6	R323	CRJ10DJ122T	RES , CHIP (1.2K OHM)	1608 SIZE	1
....6	R324	CRJ10DJ512T	RES , CHIP (5.1K OHM)	1608 SIZE	1
....6	R325	CRJ10DJ512T	RES , CHIP (5.1K OHM)	1608 SIZE	1
....6	R326	CRJ10DJ122T	RES , CHIP (1.2K OHM)	1608 SIZE	1
....6	R327	CRJ10DJ122T	RES , CHIP (1.2K OHM)	1608 SIZE	1
....6	R328	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....6	R329	CRJ10DJ512T	RES , CHIP (5.1K OHM)	1608 SIZE	1
....6	R330	CRJ10DJ122T	RES , CHIP (1.2K OHM)	1608 SIZE	1
....6	R331	CRJ10DJ122T	RES , CHIP (1.2K OHM)	1608 SIZE	1
....6	R332	CRJ10DJ512T	RES , CHIP (5.1K OHM)	1608 SIZE	1
....6	R333	CRJ10DJ512T	RES , CHIP (5.1K OHM)	1608 SIZE	1
....6	R334	CRJ10DJ122T	RES , CHIP (1.2K OHM)	1608 SIZE	1
....6	R335	CRJ10DJ122T	RES , CHIP (1.2K OHM)	1608 SIZE	1
....6	R336	CRJ10DJ512T	RES , CHIP (5.1K OHM)	1608 SIZE	1
....6	R337	CRJ10DJ104T	RES , CHIP (100K OHM)	1608 SIZE	1
....6	R338	CRJ10DJ102T	RES , CHIP (1K OHM)	1608 SIZE	1
....6	R340	CRJ10DJ561T	RES , CHIP		1
....6	R341	CRJ10DJ122T	RES , CHIP (1.2K OHM)	1608 SIZE	1
....6	R342	CRJ10DJ392T	RES . CHIP (3.9K OHM)		1
....6	R343	CRJ10DJ392T	RES . CHIP (3.9K OHM)		1
....6	R344	CRJ10DJ122T	RES , CHIP (1.2K OHM)	1608 SIZE	1
....6	R345	CRJ10DJ122T	RES , CHIP (1.2K OHM)	1608 SIZE	1
....6	R348	CRJ10DJ122T	RES , CHIP (1.2K OHM)	1608 SIZE	1
....6	R349	CRJ10DJ122T	RES , CHIP (1.2K OHM)	1608 SIZE	1
....6	R350	CRJ10DJ472T	RES , CHIP (4.7K OHM)	1608 SIZE	1
....6	R351	CRJ10DJ472T	RES , CHIP (4.7K OHM)	1608 SIZE	1
....6	R352	CRJ10DJ122T	RES , CHIP (1.2K OHM)	1608 SIZE	1
....6	R353	CRJ10DJ122T	RES , CHIP (1.2K OHM)	1608 SIZE	1
....6	R354	CRJ10DJ301T	RES , CHIP	1608	1
....6	R355	CRJ10DJ273T	RES , CHIP (27K OHM)		1
....6	R356	CRJ10DJ122T	RES , CHIP (1.2K OHM)	1608 SIZE	1
....6	R361	CRJ10DJ104T	RES , CHIP (100K OHM)	1608 SIZE	1
....6	R362	CRJ10DJ104T	RES , CHIP (100K OHM)	1608 SIZE	1
....6	R363	CRJ10DJ104T	RES , CHIP (100K OHM)	1608 SIZE	1
....6	R364	CRJ10DJ104T	RES , CHIP (100K OHM)	1608 SIZE	1
....6	R365	CRJ10DJ104T	RES , CHIP (100K OHM)	1608 SIZE	1
....6	R366	CRJ10DJ104T	RES , CHIP (100K OHM)	1608 SIZE	1
....6	R367	CRJ10DJ104T	RES , CHIP (100K OHM)	1608 SIZE	1
....6	R368	CRJ10DJ104T	RES , CHIP (100K OHM)	1608 SIZE	1
....6	R369	CRJ10DJ301T	RES , CHIP	1608	1
....6	R370	CRJ10DJ273T	RES , CHIP (27K OHM)		1
....6	R371	CRJ10DJ512T	RES , CHIP (5.1K OHM)	1608 SIZE	1
....6	R372	CRJ10DJ512T	RES , CHIP (5.1K OHM)	1608 SIZE	1
....6	R373	CRJ10DJ512T	RES , CHIP (5.1K OHM)	1608 SIZE	1
....6	R374	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....6	R375	CRJ10DJ512T	RES , CHIP (5.1K OHM)	1608 SIZE	1
....6	R376	CRJ10DJ512T	RES , CHIP (5.1K OHM)	1608 SIZE	1
....6	R377	CRJ10DJ512T	RES , CHIP (5.1K OHM)	1608 SIZE	1
....6	R378	CRJ10DJ512T	RES , CHIP (5.1K OHM)	1608 SIZE	1
....6	R381	CRJ10DJ561T	RES , CHIP		1
....6	R382	CRJ10DJ561T	RES , CHIP		1
....6	R383	CRJ10DJ561T	RES , CHIP		1
....6	R384	CRJ10DJ561T	RES , CHIP		1
....6	R385	CRJ10DJ561T	RES , CHIP		1
....6	R386	CRJ10DJ561T	RES , CHIP		1
....6	R387	CRJ10DJ561T	RES , CHIP		1
....6	R388	CRJ10DJ561T	RES , CHIP		1
....6	R389	CRJ10DJ184T	RES , CHIP (180K OHM)	1608 SIZE	1
....6	R390	CRJ10DJ184T	RES , CHIP (180K OHM)	1608 SIZE	1
....6	R391	CRJ10DJ392T	RES . CHIP (3.9K OHM)		1
....6	R392	CRJ10DJ392T	RES . CHIP (3.9K OHM)		1
....6	R393	CRJ10DJ392T	RES . CHIP (3.9K OHM)		1
....6	R394	CRJ10DJ392T	RES . CHIP (3.9K OHM)		1
....6	R395	CRJ10DJ392T	RES . CHIP (3.9K OHM)		1
....6	R396	CRJ10DJ392T	RES . CHIP (3.9K OHM)		1
....6	R397	CRJ10DJ392T	RES . CHIP (3.9K OHM)		1
....6	R398	CRJ10DJ392T	RES . CHIP (3.9K OHM)		1
....6	R447	CRJ10DJ101T	RES , CHIP (100 OHM)	1608 SIZE	1
....6	R448	CRJ10DJ184T	RES , CHIP (180K OHM)	1608 SIZE	1
....6	R452	CRJ10DJ184T	RES , CHIP (180K OHM)	1608 SIZE	1
....6	R454	CRJ10DJ562T	RES , CHIP (5.6K OHM)	1608 SIZE	1
....6	R455	CRJ10DJ122T	RES , CHIP (1.2K OHM)	1608 SIZE	1
....6	R456	CRJ10DJ562T	RES , CHIP (5.6K OHM)	1608 SIZE	1
....6	R460	CRJ10DJ184T	RES , CHIP (180K OHM)	1608 SIZE	1
....6	R461	CRJ10DJ104T	RES , CHIP (100K OHM)	1608 SIZE	1
....6	R462	CRJ10DJ104T	RES , CHIP (100K OHM)	1608 SIZE	1
....6	R463	CRJ10DJ821T	RES , CHIP (820 OHM)	1608 SIZE	1
....6	R464	CRJ10DJ821T	RES , CHIP (820 OHM)	1608 SIZE	1
....6	R465	CRJ10DJ472T	RES , CHIP (4.7K OHM)	1608 SIZE	1
....6	R466	CRJ10DJ472T	RES , CHIP (4.7K OHM)	1608 SIZE	1
....6	R467	CRJ10DJ472T	RES , CHIP (4.7K OHM)	1608 SIZE	1
....6	R468	CRJ10DJ472T	RES , CHIP (4.7K OHM)	1608 SIZE	1
....6	R469	CRJ10DJ184T	RES , CHIP (180K OHM)	1608 SIZE	1
....6	R470	CRJ10DJ184T	RES , CHIP (180K OHM)	1608 SIZE	1

INPUT PCB ASSY					
Level	Ref. #	Part Number	Description	Drawing No (Value)	Qty
....6	R471	CRJ10DJ101T	RES , CHIP (100 OHM)	1608 SIZE	1
....6	R472	CRJ10DJ101T	RES , CHIP (100 OHM)	1608 SIZE	1
....6	R473	CRJ10DJ184T	RES , CHIP (180K OHM)	1608 SIZE	1
....6	R474	CRJ10DJ122T	RES , CHIP (1.2K OHM)	1608 SIZE	1
....6	R476	CRJ10DJ101T	RES , CHIP (100 OHM)	1608 SIZE	1
....6	R477	CRJ10DJ101T	RES , CHIP (100 OHM)	1608 SIZE	1
....6	R478	CRJ10DJ562T	RES , CHIP (5.6K OHM)	1608 SIZE	1
....6	R479	CRJ10DJ562T	RES , CHIP (5.6K OHM)	1608 SIZE	1
....6	R480	CRJ10DJ102T	RES , CHIP (1K OHM)	1608 SIZE	1
....6	R481	CRJ10DJ561T	RES , CHIP		1
....6	R482	CRJ10DJ472T	RES , CHIP (4.7K OHM)	1608 SIZE	1
....6	R483	CRJ10DJ222T	RES , CHIP (2.2K OHM)	1608 SIZE	1
....6	R484	CRJ10DJ473T	RES , CHIP (47K OHM)	1608 SIZE	1
....6	R485	CRJ14CJ101T	RES , CHIP 1/4W	3216 SIZE	1
....6	R489	CRJ10DJ332T	RES , CHIP (3.3K OHM)	1608 SIZE	1
....6	R490	CRJ10DJ332T	RES , CHIP (3.3K OHM)	1608 SIZE	1
....6	R499	CRJ10DJ102T	RES , CHIP (1K OHM)	1608 SIZE	1
....6	R531	CRJ10DJ152T	RES , CHIP (1.5K OHM)	1608 SIZE	1
....6	R532	CRJ10DJ152T	RES , CHIP (1.5K OHM)	1608 SIZE	1
....6	R533	CRJ10DJ152T	RES , CHIP (1.5K OHM)	1608 SIZE	1
....6	R534	CRJ10DJ152T	RES , CHIP (1.5K OHM)	1608 SIZE	1
....6	R601	CRJ10DJ101T	RES , CHIP (100 OHM)	1608 SIZE	1
....6	R602	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....6	R603	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....6	R604	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....6	R605	CRJ10DJ332T	RES , CHIP (3.3K OHM)	1608 SIZE	1
....6	R606	CRJ10DJ332T	RES , CHIP (3.3K OHM)	1608 SIZE	1
....6	R610	CRJ10DF5101T	RES. CHIP (5.1K 1%)	1608 SIZE	1
....6	R611	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....6	R612	CRJ10DJ820T	RES , CHIP (82 OHM)	1608 SIZE	1
....6	R613	CRJ10DJ330T	RES , CHIP (33 OHM)	1608 SIZE	1
....6	R614	CRJ10DJ330T	RES , CHIP (33 OHM)	1608 SIZE	1
....6	R615	CRJ10DJ332T	RES , CHIP (3.3K OHM)	1608 SIZE	1
....6	R616	CRJ10DJ0R0T	RES , CHIP (O OHM)	1608 SIZE	1
....6	R619	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....6	R620	CRJ10DJ750T	RES , CHIP (75 OHM)	1608 SIZE	1
....6	R621	CRJ10DJ332T	RES , CHIP (3.3K OHM)	1608 SIZE	1
....6	R622	CRJ10DJ332T	RES , CHIP (3.3K OHM)	1608 SIZE	1
....6	R700	CRJ10DJ330T	RES , CHIP (33 OHM)	1608 SIZE	1
....6	R704	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....6	R709	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....6	R710	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....6	R711	CRJ10DJ560T	RES , CHIP (56 OHM)	1608 SIZE	1
....6	R712	CRJ10DJ820T	RES , CHIP (82 OHM)	1608 SIZE	1
....6	R713	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....6	R714	CRJ10DJ104T	RES , CHIP (100K OHM)	1608 SIZE	1
....6	R715	CRJ10DJ104T	RES , CHIP (100K OHM)	1608 SIZE	1
....6	R716	CRJ10DJ472T	RES , CHIP (4.7K OHM)	1608 SIZE	1
....6	R717	CRJ10DJ0R0T	RES , CHIP (O OHM)	1608 SIZE	1
....6	R718	CRJ10DJ332T	RES , CHIP (3.3K OHM)	1608 SIZE	1
....6	R719	CRJ10DJ0R0T	RES , CHIP (O OHM)	1608 SIZE	1
....6	R720	CRJ10DJ0R0T	RES , CHIP (O OHM)	1608 SIZE	1
....6	R721	CRJ10DJ330T	RES , CHIP (33 OHM)	1608 SIZE	1
....6	R722	CRJ10DJ0R0T	RES , CHIP (O OHM)	1608 SIZE	1
....6	R723	CRJ10DJ330T	RES , CHIP (33 OHM)	1608 SIZE	1
....6	R724	CRJ10DJ101T	RES , CHIP (100 OHM)	1608 SIZE	1
....6	R725	CRJ10DJ0R0T	RES , CHIP (O OHM)	1608 SIZE	1
....6	R726	CRJ10DJ100T	RES , CHIP (10 OHM)	1608 SIZE	1
....6	R727	CRJ10DJ0R0T	RES , CHIP (O OHM)	1608 SIZE	1
....6	R728	CRJ10DJ102T	RES , CHIP (1K OHM)	1608 SIZE	1
....6	R729	CRJ10DJ330T	RES , CHIP (33 OHM)	1608 SIZE	1
....6	R730	CRJ10DJ330T	RES , CHIP (33 OHM)	1608 SIZE	1
....6	R732	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....6	R733	CRJ10DJ100T	RES , CHIP (10 OHM)	1608 SIZE	1
....6	R734	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....6	R735	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....6	R736	CRJ10DJ241T	RES , CHIP (240 OHM)		1
....6	R737	CRJ10DJ330T	RES , CHIP (33 OHM)	1608 SIZE	1
....6	R738	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....6	R739	CRJ10DJ820T	RES , CHIP (82 OHM)	1608 SIZE	1
....6	R741	CRJ10DJ330T	RES , CHIP (33 OHM)	1608 SIZE	1
....6	R742	CRJ10DJ330T	RES , CHIP (33 OHM)	1608 SIZE	1
....6	R743	CRJ10DJ330T	RES , CHIP (33 OHM)	1608 SIZE	1
....6	R744	CRJ10DJ102T	RES , CHIP (1K OHM)	1608 SIZE	1
....6	R745	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....6	R746	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....6	R747	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....6	R750	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....6	R751	CRJ10DJ820T	RES , CHIP (82 OHM)	1608 SIZE	1
....6	R752	CRJ10DJ330T	RES , CHIP (33 OHM)	1608 SIZE	1
....6	R753	CRJ10DJ332T	RES , CHIP (3.3K OHM)	1608 SIZE	1
....6	R754	CRJ10DJ332T	RES , CHIP (3.3K OHM)	1608 SIZE	1
....6	R755	CRJ10DJ750T	RES , CHIP (75 OHM)	1608 SIZE	1
....6	R756	CRJ10DJ750T	RES , CHIP (75 OHM)	1608 SIZE	1
....6	R757	CRJ10DJ750T	RES , CHIP (75 OHM)	1608 SIZE	1
....6	R758	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....6	R759	CRJ10DJ221T	RES , CHIP (220 OHM)	1608 SIZE	1
....6	R760	CRJ10DJ105T	RES , CHIP (1M OHM)	1608 SIZE	1
....6	R761	CRJ10DJ102T	RES , CHIP (1K OHM)	1608 SIZE	1
....6	R762	CRJ10DJ102T	RES , CHIP (1K OHM)	1608 SIZE	1
....6	R763	CRJ10DJ472T	RES , CHIP (4.7K OHM)	1608 SIZE	1
....6	R764	CRJ10DJ330T	RES , CHIP (33 OHM)	1608 SIZE	1
....6	R765	CRJ10DJ330T	RES , CHIP (33 OHM)	1608 SIZE	1

INPUT PCB ASSY					
Level	Ref. #	Part Number	Description	Drawing No (Value)	Qty
....6	R767	CRJ10DF5101T	RES. CHIP (5.1K 1%)	1608 SIZE	1
....6	R770	CRJ10DJ100T	RES , CHIP (10 OHM)	1608 SIZE	1
....6	R771	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....6	R772	CRJ10DJ473T	RES , CHIP (47K OHM)	1608 SIZE	1
....6	R773	CRJ10DJ332T	RES , CHIP (3.3K OHM)	1608 SIZE	1
....6	R774	CRJ10DJ332T	RES , CHIP (3.3K OHM)	1608 SIZE	1
....6	R775	CRJ10DJ332T	RES , CHIP (3.3K OHM)	1608 SIZE	1
....6	R776	CRJ10DJ332T	RES , CHIP (3.3K OHM)	1608 SIZE	1
....6	R777	CRJ10DJ101T	RES , CHIP (100 OHM)	1608 SIZE	1
....6	R779	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....6	R780	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....6	R781	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....6	R782	CRJ10DJ272T	RES , CHIP (2.7K OHM)	1608 SIZE	1
....6	R783	CRJ10DJ272T	RES , CHIP (2.7K OHM)	1608 SIZE	1
....6	R784	CRJ10DJ473T	RES , CHIP (47K OHM)	1608 SIZE	1
....6	R785	CRJ10DJ104T	RES , CHIP (100K OHM)	1608 SIZE	1
....6	R786	CRJ10DJ471T	RES , CHIP (470 OHM)	1608 SIZE	1
....6	R787	CRJ10DJ0R0T	RES , CHIP (O OHM)	1608 SIZE	1
....6	R788	CRJ10DJ473T	RES , CHIP (47K OHM)	1608 SIZE	1
....6	R789	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....6	R790	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....6	R792	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....6	R795	CRJ10DJ272T	RES , CHIP (2.7K OHM)	1608 SIZE	1
....6	R798	CRJ10DJ0R0T	RES , CHIP (O OHM)	1608 SIZE	1
....6	R799	CRJ10DJ0R0T	RES , CHIP (O OHM)	1608 SIZE	1
....6	R800	CRJ10DJ332T	RES , CHIP (3.3K OHM)	1608 SIZE	1
....6	R801	CRJ10DJ332T	RES , CHIP (3.3K OHM)	1608 SIZE	1
....6	R810	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....6	R811	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....6	R812	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....6	R813	CRJ10DJ330T	RES , CHIP (33 OHM)	1608 SIZE	1
....6	R814	CRJ10DJ330T	RES , CHIP (33 OHM)	1608 SIZE	1
....6	R815	CRJ10DJ330T	RES , CHIP (33 OHM)	1608 SIZE	1
....6	R816	CRJ10DJ330T	RES , CHIP (33 OHM)	1608 SIZE	1
....6	R907	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....6	R908	CRJ10DJ105T	RES , CHIP (1M OHM)	1608 SIZE	1
....6	R909	CRJ10DJ682T	RES , CHIP (6.8K OHM)	1608 SIZE	1
....6	R910	CRJ10DJ105T	RES , CHIP (1M OHM)	1608 SIZE	1
....6	R932	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....6	R960	CRJ10DJ332T	RES , CHIP (3.3K OHM)	1608 SIZE	1
....6	R963	CRJ10DJ105T	RES , CHIP (1M OHM)	1608 SIZE	1
....6	R966	CRJ10DJ472T	RES , CHIP (4.7K OHM)	1608 SIZE	1
....6	R967	CRJ10DJ562T	RES , CHIP (5.6K OHM)	1608 SIZE	1
....6	R968	CRJ10DJ105T	RES , CHIP (1M OHM)	1608 SIZE	1
....6	R969	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....6	R992	CRJ10DJ562T	RES , CHIP (5.6K OHM)	1608 SIZE	1
....5	C261	CCEA1EH470T	CAP , ELECT	47UF 25V	1
....5	C262	CCEA1EH470T	CAP , ELECT	47UF 25V	1
....5	C263	CCEA1EH470T	CAP , ELECT	47UF 25V	1
....5	C264	CCEA1EH470T	CAP , ELECT	47UF 25V	1
....5	C265	CCEA1EH470T	CAP , ELECT	47UF 25V	1
....5	C266	CCEA1EH470T	CAP , ELECT	47UF 25V	1
....5	C267	CCEA1EH470T	CAP , ELECT	47UF 25V	1
....5	C268	CCEA1EH470T	CAP , ELECT	47UF 25V	1
....5	C270	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C271	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C272	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C273	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C281	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C282	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C283	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C284	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C285	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C286	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C287	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C288	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C292	CCEA1CH101T	CAP , ELECT	100UF 16V	1
....5	C294	CCEA1CH101T	CAP , ELECT	100UF 16V	1
....5	C341	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C342	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C343	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C344	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C345	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C346	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C347	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C348	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C361	CCEA1CH101T	CAP , ELECT	100UF 16V	1
....5	C371	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C372	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C373	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C374	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C375	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C376	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C377	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C378	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C389	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C390	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C414	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C415	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C441	CCEA1EH101T	CAP , ELECT	100UF 25V	1
....5	C443	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C444	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C446	CCEA1CH101T	CAP , ELECT	100UF 16V	1

INPUT PCB ASSY

Level	Ref. #	Part Number	Description	Drawing No (Value)	Qty
....5	C447	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C449	CCEA1CH101T	CAP , ELECT	100UF 16V	1
....5	C452	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C453	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C454	CCEA1EH101T	CAP , ELECT	100UF 25V	1
....5	C612	CCEA1CH101T	CAP , ELECT	100UF 16V	1
....5	C614	CCEA1CH101T	CAP , ELECT	100UF 16V	1
....5	C626	CCEA1CH221T	CAP , ELECT	220UF 16V	1
....5	C628	CCEA1CH101T	CAP , ELECT	100UF 16V	1
....5	C630	CCEA1CH101T	CAP , ELECT	100UF 16V	1
....5	C660	CCEA1CH101T	CAP , ELECT	100UF 16V	1
....5	C703	CCEA1CH101T	CAP , ELECT	100UF 16V	1
....5	C706	CCEA1CH101T	CAP , ELECT	100UF 16V	1
....5	C715	CCEA1HH4R7T	CAP , ELECT	4.7UF 50V	1
....5	C717	CCEA1HH4R7T	CAP , ELECT	4.7UF 50V	1
....5	C720	CCEA1CH101T	CAP , ELECT	100UF 16V	1
....5	C721	CCEA1AH471T	CAP , ELECT	470UF 10V	1
....5	C724	CCEA1AH471T	CAP , ELECT	470UF 10V	1
....5	C726	CCEA1CH101T	CAP , ELECT	100UF 16V	1
....5	C728	CCEA1AH471T	CAP , ELECT	470UF 10V	1
....5	C730	CCEA1CH101T	CAP , ELECT	100UF 16V	1
....5	C737	CCEA1CH101T	CAP , ELECT	100UF 16V	1
....5	C740	CCEA1CH101T	CAP , ELECT	100UF 16V	1
....5	C749	CCEA1CH101T	CAP , ELECT	100UF 16V	1
....5	C750	CCEA1CH101T	CAP , ELECT	100UF 16V	1
....5	C752	CCEA1CH101T	CAP , ELECT	100UF 16V	1
....5	C753	CCEA1CH101T	CAP , ELECT	100UF 16V	1
....5	C764	CCEA0JH102T	CAP , ELECT	1000UF 6.3V	1
....5	C766	CCEA0JH102T	CAP , ELECT	1000UF 6.3V	1
....5	D221	CVD1N4003ST	DIODE , RECT	1N4003	1
....5	D222	CVD1N4003ST	DIODE , RECT	1N4003	1
....5	D447	HVDMTZJ12BT	DIODE , ZENER	MTZJ12B 1/2W	1
....5	Q311	HVTKTC2874BT	T.R , MUTE	KTC2874B	1
....5	Q457	HVTKTA1267YT	T.R	KTA1267Y	1
....5	Q458	HVTKTA1271YT	T.R	KTA1271Y	1
....5	Q731	HVTKTA1267YT	T.R	KTA1267Y	1
....5	Q733	HVTKTC3199YT	T.R	KTC3199Y	1
...4	BN12	CJP27GA41ZM	WAFER (1.25MM, CARD CABLE, STRAIGHT 27P)	MOLEX 52045-**45	1
...4	BN72	CJP31GA41ZM	WAFER (1.25MM, CARD CABLE, STRAIGHT 31P)	MOLEX 52045-**45	1
...4	BN81	CJP44GA240ZB	PIN HEADER (44P,2.54mm), STRAIGHT TYPE		1
...4	CN17	CJP06GB142ZB	PIN HEADER(6P, 2.54mm)		1
...4	CN20	CJP07GI237ZW	LOCKING TYPE , STRAIGHT WAFER, 2.5MM		1
...4	CN40	CJP03GA01ZY	WAFER		1
...4	CN52	CJP03GA01ZY	WAFER		1
...4	C732	CCEA0JH332E	CAP , ELECT (KR3, 3300UF/6.3V, 10X20)	KR3-6R3V332MG200-L/C4.0	1
...4	IC27	BVIKP1010B	IC, PHOTO COUPLER (COSMO)		1
...4	IC36	HVIKIA7808API	I.C , REGULATOR +8V	KIA7808 (KEC)	1
...4	IC37	CVIKIA7908PI	I.C , REGULATOR(TO-220IS)	KIA7908PI TO-220IS	1
...4	JK11	CJJ4R019W	TERMINAL , IN/OUT		1
...4	JK12	CJJ4R019W	TERMINAL , IN/OUT		1
...4	JK13	CJJ4R019W	TERMINAL , IN/OUT		1
...4	JK14	CJJ4R037W	JACK , BOARD		1
...4	JK17	CJJ9L004Z	JACK , RJ-45		1
...4	JK78	CJJ4S022Z	JACK , BOARD		1
...4	JW70	CWE8202150AA	WIRE ASS'Y		1
...4	L301	CLM4B001Z	COIL , MPX (FM 19KHz FILTER)		1
...4	L302	CLM4B001Z	COIL , MPX (FM 19KHz FILTER)		1
...4	TUN1	CNVMW104MV1S63A	TUNER(EUR) FM, AM, RDS(S/LAB)	KST-MW104MV1-S63A	1
...4	X701	HOX24576E150TF	CRYSTAL	24.576MHZ	1
...4	X702	HOX10000E220TF	CRYSTAL(HC-49/S,ATS) 10MHz	CL-22P	1

HDMI PCB ASSY

Level	Ref. #	Part Number	Description	Drawing No (Value)	Qty
..3		**COP12179C**	**AVR2600 HDMI PCB ASS'Y**		**1**
....5	BN15	CJP17GA193ZY	WAFER, CARD CABLE (SMD)		1
....5	CN55	CJP26GA226ZB	DIP , SOCKET (26PIN, 2.54mm, SMD)		1
....5	C601	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C602	CCUS1H223KC	CAP , CHIP	0.022UF 50V K	1
....5	C603	HCEC1CRV2101T	CAP , CHIP ELECT (100UF/16V)		1
....5	C604	CCSNA0J220B	CAP , CHIP TANTAL(22uF/6.3V, NingXia XingRi)	XRCA45 XXX M XXX AT	1
....5	C605	CCSNA0J220B	CAP , CHIP TANTAL(22uF/6.3V, NingXia XingRi)	XRCA45 XXX M XXX AT	1
....5	C606	CCSNA0J220B	CAP , CHIP TANTAL(22uF/6.3V, NingXia XingRi)	XRCA45 XXX M XXX AT	1
....5	C607	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C608	CCUS1H223KC	CAP , CHIP	0.022UF 50V K	1
....5	C609	CCSNA1C100B	CAP , CHIP TANTAL(10uF/16V, NingXia XingRi)	XRCA45 XXX M XXX AT	1
....5	C610	CCSNA1C100B	CAP , CHIP TANTAL(10uF/16V, NingXia XingRi)	XRCA45 XXX M XXX AT	1
....5	C611	HCEC1CRV2101T	CAP , CHIP ELECT (100UF/16V)		1
....5	C612	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C613	CCUS1H102KC	CAP , CHIP	1000PF 50V K	1
....5	C614	CCUS1H103KC	CAP , CHIP	0.01UF 50V K	1
....5	C615	CCSNA0J220B	CAP , CHIP TANTAL(22uF/6.3V, NingXia XingRi)	XRCA45 XXX M XXX AT	1
....5	C616	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C617	CCSNA0J220B	CAP , CHIP TANTAL(22uF/6.3V, NingXia XingRi)	XRCA45 XXX M XXX AT	1
....5	C618	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C619	CCSNA0J220B	CAP , CHIP TANTAL(22uF/6.3V, NingXia XingRi)	XRCA45 XXX M XXX AT	1
....5	C620	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C621	CCSNA0J220B	CAP , CHIP TANTAL(22uF/6.3V, NingXia XingRi)	XRCA45 XXX M XXX AT	1
....5	C622	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C623	CCSNA0J220B	CAP , CHIP TANTAL(22uF/6.3V, NingXia XingRi)	XRCA45 XXX M XXX AT	1
....5	C624	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C625	CCSNA0J220B	CAP , CHIP TANTAL(22uF/6.3V, NingXia XingRi)	XRCA45 XXX M XXX AT	1
....5	C626	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1

HDMI PCB ASSY					
Level	Ref. #	Part Number	Description	Drawing No (Value)	Qty
....5	C627	CCSNA0J220B	CAP , CHIP TANTAL(22uF/6.3V, NingXia XingRi)	XRCA45 XXX M XXX AT	1
....5	C628	CCSNA1C100B	CAP , CHIP TANTAL(10uF/16V, NingXia XingRi)	XRCA45 XXX M XXX AT	1
....5	C629	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C630	CCSNA0J220B	CAP , CHIP TANTAL(22uF/6.3V, NingXia XingRi)	XRCA45 XXX M XXX AT	1
....5	C631	CCSNA0J220B	CAP , CHIP TANTAL(22uF/6.3V, NingXia XingRi)	XRCA45 XXX M XXX AT	1
....5	C632	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C633	CCSNA0J220B	CAP , CHIP TANTAL(22uF/6.3V, NingXia XingRi)	XRCA45 XXX M XXX AT	1
....5	C634	CCSNA0J220B	CAP , CHIP TANTAL(22uF/6.3V, NingXia XingRi)	XRCA45 XXX M XXX AT	1
....5	C635	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C636	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C637	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C638	CCSNA1C100B	CAP , CHIP TANTAL(10uF/16V, NingXia XingRi)	XRCA45 XXX M XXX AT	1
....5	C639	CCSNA0J220B	CAP , CHIP TANTAL(22uF/6.3V, NingXia XingRi)	XRCA45 XXX M XXX AT	1
....5	C640	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C641	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C642	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C643	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C644	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C645	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C646	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C647	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C648	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C649	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C650	CCSNA1C100B	CAP , CHIP TANTAL(10uF/16V, NingXia XingRi)	XRCA45 XXX M XXX AT	1
....5	C651	CCSNA0J220B	CAP , CHIP TANTAL(22uF/6.3V, NingXia XingRi)	XRCA45 XXX M XXX AT	1
....5	C652	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C653	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C654	CCUS1A105KC	CAP , CHIP	1UF 10V K	1
....5	C655	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C656	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C657	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C658	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C659	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C660	CCSNA0J220B	CAP , CHIP TANTAL(22uF/6.3V, NingXia XingRi)	XRCA45 XXX M XXX AT	1
....5	C661	CCSNA0J220B	CAP , CHIP TANTAL(22uF/6.3V, NingXia XingRi)	XRCA45 XXX M XXX AT	1
....5	C662	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C663	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C664	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C665	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C666	CCSNA0J220B	CAP , CHIP TANTAL(22uF/6.3V, NingXia XingRi)	XRCA45 XXX M XXX AT	1
....5	C667	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C668	CCUS1H123KC	CAP , CHIP(1608, 50V/12NF)	1608, 50V/12NF	1
....5	C669	CCUS1C154KC	CAP , CHIP	0.15UF 16V K	1
....5	C670	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C671	CCUS1H222KC	CAP , CHIP	2200PF 50V K	1
....5	C672	CCUS1H123KC	CAP , CHIP(1608, 50V/12NF)	1608, 50V/12NF	1
....5	C673	CCUS1C154KC	CAP , CHIP	0.15UF 16V K	1
....5	C674	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C675	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C676	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C677	CCUS1H103KC	CAP , CHIP	0.01UF 50V K	1
....5	C678	CCSNA0J220B	CAP , CHIP TANTAL(22uF/6.3V, NingXia XingRi)	XRCA45 XXX M XXX AT	1
....5	C679	CCSNA0J220B	CAP , CHIP TANTAL(22uF/6.3V, NingXia XingRi)	XRCA45 XXX M XXX AT	1
....5	C680	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C681	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C682	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C683	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C684	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C685	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C687	CCSNA0J220B	CAP , CHIP TANTAL(22uF/6.3V, NingXia XingRi)	XRCA45 XXX M XXX AT	1
....5	C688	CCSNA0J220B	CAP , CHIP TANTAL(22uF/6.3V, NingXia XingRi)	XRCA45 XXX M XXX AT	1
....5	C689	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C690	CCSNA1C100B	CAP , CHIP TANTAL(10uF/16V, NingXia XingRi)	XRCA45 XXX M XXX AT	1
....5	C691	CCSNA0J220B	CAP , CHIP TANTAL(22uF/6.3V, NingXia XingRi)	XRCA45 XXX M XXX AT	1
....5	C692	CCSNA1C100B	CAP , CHIP TANTAL(10uF/16V, NingXia XingRi)	XRCA45 XXX M XXX AT	1
....5	C693	CCSNA0J220B	CAP , CHIP TANTAL(22uF/6.3V, NingXia XingRi)	XRCA45 XXX M XXX AT	1
....5	C694	CCSNA0J220B	CAP , CHIP TANTAL(22uF/6.3V, NingXia XingRi)	XRCA45 XXX M XXX AT	1
....5	C695	CCSNA1C100B	CAP , CHIP TANTAL(10uF/16V, NingXia XingRi)	XRCA45 XXX M XXX AT	1
....5	C696	CCUS1H103KC	CAP , CHIP	0.01UF 50V K	1
....5	C697	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C698	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C699	CCEC1CRV471T	CAP , SMD ELECT(MANLEX RV, 16V/470, 10X10)		1
....5	C700	CCSNA0J220B	CAP , CHIP TANTAL(22uF/6.3V, NingXia XingRi)	XRCA45 XXX M XXX AT	1
....5	C701	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C702	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C703	HCEC1CRV2101T	CAP , CHIP ELECT (100UF/16V)		1
....5	C704	CCEC1ERV221T	CAP , SMD ELECT(MANLEX, RV, 25V/220, 8X10)		1
....5	C705	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C707	CCEC1ERV221T	CAP , SMD ELECT(MANLEX, RV, 25V/220, 8X10)		1
....5	C708	CCEC1CRV471T	CAP , SMD ELECT(MANLEX RV, 16V/470, 10X10)		1
....5	C709	CCUS1H103KC	CAP , CHIP	0.01UF 50V K	1
....5	C710	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C711	CCUS1H103KC	CAP , CHIP	0.01UF 50V K	1
....5	C712	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C713	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C714	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C715	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C716	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C719	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C720	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C721	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C722	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C723	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1

HDMI PCB ASSY					
Level	Ref. #	Part Number	Description	Drawing No (Value)	Qty
....5	C724	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C725	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C726	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C727	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C728	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C729	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C730	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C731	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C732	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C733	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C734	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C735	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C736	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C737	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C738	CCUS1H470JA	CAP , CHIP	47PF 50V J	1
....5	C739	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C740	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C741	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C742	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C743	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C744	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C745	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C746	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C747	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C748	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C749	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C750	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C751	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C752	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C753	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C754	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C755	CCSNA1C100B	CAP , CHIP TANTAL(10uF/16V, NingXia XingRi)	XRCA45 XXX M XXX AT	1
....5	C756	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C757	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C758	CCSNA0J220B	CAP , CHIP TANTAL(22uF/6.3V, NingXia XingRi)	XRCA45 XXX M XXX AT	1
....5	C759	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C760	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C761	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C762	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C763	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C764	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C765	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C766	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C767	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C768	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C769	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C770	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C771	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C772	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C773	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C774	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C775	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C776	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C777	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C778	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C779	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C780	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C781	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C784	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C785	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C786	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C787	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C788	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C789	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C790	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C791	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C792	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C793	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C794	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C795	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C796	CCUS1H180JA	CAP , CHIP(18PF/50V)	18PF 50V J	1
....5	C797	CCSNA0J220B	CAP , CHIP TANTAL(22uF/6.3V, NingXia XingRi)	XRCA45 XXX M XXX AT	1
....5	C798	CCSNA0J220B	CAP , CHIP TANTAL(22uF/6.3V, NingXia XingRi)	XRCA45 XXX M XXX AT	1
....5	C799	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C800	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C801	CCUS1H180JA	CAP , CHIP(18PF/50V)	18PF 50V J	1
....5	C802	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C803	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C804	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C805	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C806	CCSNA0J220B	CAP , CHIP TANTAL(22uF/6.3V, NingXia XingRi)	XRCA45 XXX M XXX AT	1
....5	C807	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C808	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C809	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C810	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C811	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C812	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C813	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C814	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C815	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C816	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C817	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C818	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1

HDMI PCB ASSY					
Level	Ref. #	Part Number	Description	Drawing No (Value)	Qty
....5	C819	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C820	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C821	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C822	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C823	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C824	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C825	CCSNA0J220B	CAP , CHIP TANTAL(22uF/6.3V, NingXia XingRi)	XRCA45 XXX M XXX AT	1
....5	C826	CCSNA0J220B	CAP , CHIP TANTAL(22uF/6.3V, NingXia XingRi)	XRCA45 XXX M XXX AT	1
....5	C827	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C828	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C829	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C830	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C831	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C832	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C833	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C834	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C835	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C836	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C837	CCSNA0J220B	CAP , CHIP TANTAL(22uF/6.3V, NingXia XingRi)	XRCA45 XXX M XXX AT	1
....5	C838	CCSNA0J220B	CAP , CHIP TANTAL(22uF/6.3V, NingXia XingRi)	XRCA45 XXX M XXX AT	1
....5	C839	CCSNA0J220B	CAP , CHIP TANTAL(22uF/6.3V, NingXia XingRi)	XRCA45 XXX M XXX AT	1
....5	C840	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C841	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C842	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C843	CCUS1H103KC	CAP , CHIP	0.01UF 50V K	1
....5	C844	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C845	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C846	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C847	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C848	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C849	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C850	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C851	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C852	CCSNA0J220B	CAP , CHIP TANTAL(22uF/6.3V, NingXia XingRi)	XRCA45 XXX M XXX AT	1
....5	C853	CCSNA0J220B	CAP , CHIP TANTAL(22uF/6.3V, NingXia XingRi)	XRCA45 XXX M XXX AT	1
....5	C854	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C855	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C856	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C857	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C858	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C859	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C860	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C861	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C862	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C863	CCSNA0J220B	CAP , CHIP TANTAL(22uF/6.3V, NingXia XingRi)	XRCA45 XXX M XXX AT	1
....5	C864	CCUS1H103KC	CAP , CHIP	0.01UF 50V K	1
....5	C865	CCUS1H103KC	CAP , CHIP	0.01UF 50V K	1
....5	C866	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C867	CCSNA0J220B	CAP , CHIP TANTAL(22uF/6.3V, NingXia XingRi)	XRCA45 XXX M XXX AT	1
....5	C868	CCSNA0J220B	CAP , CHIP TANTAL(22uF/6.3V, NingXia XingRi)	XRCA45 XXX M XXX AT	1
....5	C869	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C870	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C871	CCUS1H103KC	CAP , CHIP	0.01UF 50V K	1
....5	C872	CCUS1H103KC	CAP , CHIP	0.01UF 50V K	1
....5	C873	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C874	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C875	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C876	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C877	CCUS1H103KC	CAP , CHIP	0.01UF 50V K	1
....5	C878	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C879	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C880	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C881	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C882	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C883	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C884	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C885	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C886	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C887	CCUS1H222KC	CAP , CHIP	2200PF 50V K	1
....5	C888	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C889	CCSNA0J220B	CAP , CHIP TANTAL(22uF/6.3V, NingXia XingRi)	XRCA45 XXX M XXX AT	1
....5	C890	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C891	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C892	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C893	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C894	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C895	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C896	CCSNA0J220B	CAP , CHIP TANTAL(22uF/6.3V, NingXia XingRi)	XRCA45 XXX M XXX AT	1
....5	C897	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C898	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C899	CCUS1H103KC	CAP , CHIP	0.01UF 50V K	1
....5	C900	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C901	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C902	CCSNA0J220B	CAP , CHIP TANTAL(22uF/6.3V, NingXia XingRi)	XRCA45 XXX M XXX AT	1
....5	C903	CCSNA0J220B	CAP , CHIP TANTAL(22uF/6.3V, NingXia XingRi)	XRCA45 XXX M XXX AT	1
....5	C904	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C905	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C906	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C907	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C908	CCSNA0J220B	CAP , CHIP TANTAL(22uF/6.3V, NingXia XingRi)	XRCA45 XXX M XXX AT	1
....5	C909	CCUS1H103KC	CAP , CHIP	0.01UF 50V K	1
....5	C910	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C911	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1

HDMI PCB ASSY					
Level	Ref. #	Part Number	Description	Drawing No (Value)	Qty
....5	C912	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C913	CCUS1H103KC	CAP , CHIP	0.01UF 50V K	1
....5	C914	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C915	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C916	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C917	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C918	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C919	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C920	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C921	CCSNA0J220B	CAP , CHIP TANTAL(22uF/6.3V, NingXia XingRi)	XRCA45 XXX M XXX AT	1
....5	C922	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C923	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C924	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C925	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C926	CCUS1H103KC	CAP , CHIP	0.01UF 50V K	1
....5	C927	CCUS1H103KC	CAP , CHIP	0.01UF 50V K	1
....5	C928	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C929	CCUS1H103KC	CAP , CHIP	0.01UF 50V K	1
....5	C930	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C931	CCSNA0J220B	CAP , CHIP TANTAL(22uF/6.3V, NingXia XingRi)	XRCA45 XXX M XXX AT	1
....5	C932	CCSNA0J220B	CAP , CHIP TANTAL(22uF/6.3V, NingXia XingRi)	XRCA45 XXX M XXX AT	1
....5	C933	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C934	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C935	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C936	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C937	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C938	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C939	CCUS1H470JA	CAP , CHIP	47PF 50V J	1
....5	C940	CCUS1H470JA	CAP , CHIP	47PF 50V J	1
....5	C941	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C942	CCUI1C104KC	CAP , CHIP(1005, 16V/0.1UF)		1
....5	C943	CCSNA0J220B	CAP , CHIP TANTAL(22uF/6.3V, NingXia XingRi)	XRCA45 XXX M XXX AT	1
....5	C944	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C945	CCSNA0J220B	CAP , CHIP TANTAL(22uF/6.3V, NingXia XingRi)	XRCA45 XXX M XXX AT	1
....5	C946	CCUS1H103KC	CAP , CHIP	0.01UF 50V K	1
....5	C947	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C948	CCUS1H221JA	CAP , CHIP	220PF 50V J	1
....5	C949	CCUS1H102KC	CAP , CHIP	1000PF 50V K	1
....5	C950	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C951	CCUS1H221JA	CAP , CHIP	220PF 50V J	1
....5	C954	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C956	CCUS1H102KC	CAP , CHIP	1000PF 50V K	1
....5	C957	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C958	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C959	CCEC1ERV221T	CAP , SMD ELECT(MANLEX, RV, 25V/220, 8X10)		1
....5	C960	CCUS1H103KC	CAP , CHIP	0.01UF 50V K	1
....5	C961	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C962	CCEC1CRV471T	CAP , SMD ELECT(MANLEX RV, 16V/470, 10X10)		1
....5	C963	CCUS1H221JA	CAP , CHIP	220PF 50V J	1
....5	C964	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C965	CCUS1H103KC	CAP , CHIP	0.01UF 50V K	1
....5	C966	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....5	C967	CCUS1H103KC	CAP , CHIP	0.01UF 50V K	1
....5	C970	CCUS1H101JA	CAP , CHIP	100PF 50V J	1
....5	D902	CVDSS34SR	DIODE , SCHOTTKY (40V,3A, DO-214AC) DELTA		1
....5	D903	CVDSS34SR	DIODE , SCHOTTKY (40V,3A, DO-214AC) DELTA		1
....5	D904	CVD1SS378	DIODE , SCHOTTKY BARRIER (TOSHIBA)		1
....5	D905	CVDSS34SR	DIODE , SCHOTTKY (40V,3A, DO-214AC) DELTA		1
....5	IC101	CVISII9185ACTU	I.C , HDMI RX SW(80PIN TQFP) SILICON IMAGE	SII9185ACTU	1
....5	IC102	CVITC74VHC08FT	I.C (TOSHIBA)	TC74VHC08FT	1
....5	IC103	CVISII9134CTU	IC , HDMI TX(100PIN, TQFP)	100PIN, TQFP	1
....5	IC104	HVITC74HC4094FN	I.C (TOSHIBA)	TC74HC4094AFN	1
....5	IC105	CVISN74ALVCH16827DGG	I.C , BUFFER/DRIVER (TI)	SN74ALVCH16827DGGR , TI	1
....5	IC106	CVISN74ALVCH16827DGG	I.C , BUFFER/DRIVER (TI)	SN74ALVCH16827DGGR , TI	1
....5	IC107	CVISN74ALVCH16827DGG	I.C , BUFFER/DRIVER (TI)	SN74ALVCH16827DGGR , TI	1
....5	IC108	CVITC74VCX541FT	I,C , OCTAL BUS BUFFER (TOSHIBA)		1
....5	IC109	CVISII9135ACTU	I.C , HDMI RX(REVISION A,TQFP-144P)	144PIN, TQFP	1
....5	IC109	CVISII9135CTU	IC , HDMI RX(144PIN, TQFP)	144PIN, TQFP	1
....5	IC110	CVISN74ALVCH16827DGG	I.C , BUFFER/DRIVER (TI)	SN74ALVCH16827DGGR , TI	1
....5	IC111	CVINJM2566V	I.C , NJM2566AV(TE1) JRC		1
....5	IC112	CVIFLI30336AC	I.C , VIDEO PROCESSOR (GENESIS)	FLI30336	1
....5	IC113	CVIA3S56D40ETPG5	I.C, 256MB DDR SDRAM		1
....5	IC114	CVIF49L320UA70TG	I.C , 32M FLASH(48PIN TSOPI)	F49L320UA70TG	1
....5	IC115	CVIADV7342BSTZ	I.C , VIDEO ENCODER	ADV7342BSTZ	1
....5	IC116	CVIMK2302S01T	I.C , BUFFER (IDT)	MK23020S-01T(IDT)	1
....5	IC117	CVIA3S56D40ETPG5	I.C, 256MB DDR SDRAM		1
....5	IC118	HVIKIC7SZ08FU	I.C ,INPUT AND GATE (USV PACKAGE)	KIC7SZ08FU-RTK	1
....5	IC120	HVINJM2391DL125	I.C , CHIP REGULATOR (+2.5V) JRC		1
....5	IC121	CVISI8005QTL	IC , DCDC Converter (3.5A, SOP8) SANKEN		1
....5	IC122	CVISI8005QTL	IC , DCDC Converter (3.5A, SOP8) SANKEN		1
....5	IC123	CVIAT24C02NSU18	I.C , EEPROM (2K)		1
....5	IC124	CVITC7MZ4052FK	I.C , 4CH MUX (TOSHIBA)		1
....5	IC125	HVIKIC7SZ08FU	I.C ,INPUT AND GATE (USV PACKAGE)	KIC7SZ08FU-RTK	1
....5	IC126	CVINJM2595MTE1	I.C , VIDEO S/W (JRC)		1
....5	IC127	CVIKIA1117S50	I.C , REGULATOR(SOT-223)	KIA1117S50-RTK/P	1
....5	IC128	CVINJM2845DL133	I.C , REGULATOR(3.3V, TO-252-3) JRC		1
....5	IC129	CVINJM2845DL118	IC, NJM2845DL1-18(TE1) JRC		1
....5	IC130	CVISI8005QTL	IC , DCDC Converter (3.5A, SOP8) SANKEN		1
....5	IC131	CVI74FCT38072DCGI	I.C , CLOCK DRIVER (IDT)	IDT74FCT38072DCGI , IDT	1
....5	JK901	CJJ9H008Z	JACK , HDMI (TYPE-A,SMT-19P)	H050FS019G600BY	1
....5	JK902	CJJ9H008Z	JACK , HDMI (TYPE-A,SMT-19P)	H050FS019G600BY	1
....5	JK903	CJJ9H008Z	JACK , HDMI (TYPE-A,SMT-19P)	H050FS019G600BY	1
....5	JK904	CJJ9H008Z	JACK , HDMI (TYPE-A,SMT-19P)	H050FS019G600BY	1

HDMI PCB ASSY					
Level	Ref. #	Part Number	Description	Drawing No (Value)	Qty
....5	JK905	CJJ9H008Z	JACK , HDMI (TYPE-A,SMT-19P)	H050FS019G600BY	1
....5	L801	CLZ9R009Z	CHOKE COIL, CHIP (FOR HDMI)		1
....5	L802	CLZ9R009Z	CHOKE COIL, CHIP (FOR HDMI)		1
....5	L803	CLZ9R009Z	CHOKE COIL, CHIP (FOR HDMI)		1
....5	L804	CLZ9R009Z	CHOKE COIL, CHIP (FOR HDMI)		1
....5	L805	CLZ9Z014Z	FERRITE , CHIP BEAD(60ohm, 4516)	HCB4516KF-600T60	1
....5	L806	CLZ9Z014Z	FERRITE , CHIP BEAD(60ohm, 4516)	HCB4516KF-600T60	1
....5	L807	CLZ9Z014Z	FERRITE , CHIP BEAD(60ohm, 4516)	HCB4516KF-600T60	1
....5	L808	CLZ9Z014Z	FERRITE , CHIP BEAD(60ohm, 4516)	HCB4516KF-600T60	1
....5	L809	CLZ9R005Z	FERRITE , CHIP BEAD(60ohm, 1608)	HCB1608KF-600T30	1
....5	L810	CLZ9Z014Z	FERRITE , CHIP BEAD(60ohm, 4516)	HCB4516KF-600T60	1
....5	L811	CLZ9Z014Z	FERRITE , CHIP BEAD(60ohm, 4516)	HCB4516KF-600T60	1
....5	L812	CLZ9R005Z	FERRITE , CHIP BEAD(60ohm, 1608)	HCB1608KF-600T30	1
....5	L813	CLZ9R005Z	FERRITE , CHIP BEAD(60ohm, 1608)	HCB1608KF-600T30	1
....5	L814	CLZ9R005Z	FERRITE , CHIP BEAD(60ohm, 1608)	HCB1608KF-600T30	1
....5	L815	CLZ9R005Z	FERRITE , CHIP BEAD(60ohm, 1608)	HCB1608KF-600T30	1
....5	L816	CLZ9Z014Z	FERRITE , CHIP BEAD(60ohm, 4516)	HCB4516KF-600T60	1
....5	L817	CLZ9Z014Z	FERRITE , CHIP BEAD(60ohm, 4516)	HCB4516KF-600T60	1
....5	L818	CLZ9Z014Z	FERRITE , CHIP BEAD(60ohm, 4516)	HCB4516KF-600T60	1
....5	L819	CLZ9Z014Z	FERRITE , CHIP BEAD(60ohm, 4516)	HCB4516KF-600T60	1
....5	L820	CLZ9Z014Z	FERRITE , CHIP BEAD(60ohm, 4516)	HCB4516KF-600T60	1
....5	L821	CLZ9R005Z	FERRITE , CHIP BEAD(60ohm, 1608)	HCB1608KF-600T30	1
....5	L822	CLZ9Z014Z	FERRITE , CHIP BEAD(60ohm, 4516)	HCB4516KF-600T60	1
....5	L823	CLZ9Z014Z	FERRITE , CHIP BEAD(60ohm, 4516)	HCB4516KF-600T60	1
....5	L824	CLZ9Z014Z	FERRITE , CHIP BEAD(60ohm, 4516)	HCB4516KF-600T60	1
....5	L825	CLZ9R005Z	FERRITE , CHIP BEAD(60ohm, 1608)	HCB1608KF-600T30	1
....5	L826	CLQ13E220MRZ	COIL , SMD POWER (22UH/3A)	CMI-SSP12L80F-SERIES	1
....5	L827	CLQ13E220MRZ	COIL , SMD POWER (22UH/3A)	CMI-SSP12L80F-SERIES	1
....5	L828	CLZ9Z014Z	FERRITE , CHIP BEAD(60ohm, 4516)	HCB4516KF-600T60	1
....5	L829	CLZ9R005Z	FERRITE , CHIP BEAD(60ohm, 1608)	HCB1608KF-600T30	1
....5	L830	CLZ9Z014Z	FERRITE , CHIP BEAD(60ohm, 4516)	HCB4516KF-600T60	1
....5	L831	CLZ9Z014Z	FERRITE , CHIP BEAD(60ohm, 4516)	HCB4516KF-600T60	1
....5	L832	CLZ9Z014Z	FERRITE , CHIP BEAD(60ohm, 4516)	HCB4516KF-600T60	1
....5	L833	CLZ9Z014Z	FERRITE , CHIP BEAD(60ohm, 4516)	HCB4516KF-600T60	1
....5	L834	CLZ9Z014Z	FERRITE , CHIP BEAD(60ohm, 4516)	HCB4516KF-600T60	1
....5	L835	CLZ9Z014Z	FERRITE , CHIP BEAD(60ohm, 4516)	HCB4516KF-600T60	1
....5	L836	CLZ9R005Z	FERRITE , CHIP BEAD(60ohm, 1608)	HCB1608KF-600T30	1
....5	L837	CLZ9Z014Z	FERRITE , CHIP BEAD(60ohm, 4516)	HCB4516KF-600T60	1
....5	L838	CLZ9Z014Z	FERRITE , CHIP BEAD(60ohm, 4516)	HCB4516KF-600T60	1
....5	L839	CLZ9R005Z	FERRITE , CHIP BEAD(60ohm, 1608)	HCB1608KF-600T30	1
....5	L840	CLZ9R005Z	FERRITE , CHIP BEAD(60ohm, 1608)	HCB1608KF-600T30	1
....5	L841	CLZ9R005Z	FERRITE , CHIP BEAD(60ohm, 1608)	HCB1608KF-600T30	1
....5	L842	CLZ9R005Z	FERRITE , CHIP BEAD(60ohm, 1608)	HCB1608KF-600T30	1
....5	L843	CLZ9Z014Z	FERRITE , CHIP BEAD(60ohm, 4516)	HCB4516KF-600T60	1
....5	L844	CLZ9R005Z	FERRITE , CHIP BEAD(60ohm, 1608)	HCB1608KF-600T30	1
....5	L845	CLZ9R005Z	FERRITE , CHIP BEAD(60ohm, 1608)	HCB1608KF-600T30	1
....5	L846	CLZ9R005Z	FERRITE , CHIP BEAD(60ohm, 1608)	HCB1608KF-600T30	1
....5	L847	CLZ9R005Z	FERRITE , CHIP BEAD(60ohm, 1608)	HCB1608KF-600T30	1
....5	L848	CLZ9Z014Z	FERRITE , CHIP BEAD(60ohm, 4516)	HCB4516KF-600T60	1
....5	L849	CLZ9R005Z	FERRITE , CHIP BEAD(60ohm, 1608)	HCB1608KF-600T30	1
....5	L850	CLZ9R005Z	FERRITE , CHIP BEAD(60ohm, 1608)	HCB1608KF-600T30	1
....5	L851	CLZ9Z014Z	FERRITE , CHIP BEAD(60ohm, 4516)	HCB4516KF-600T60	1
....5	L852	CLZ9R005Z	FERRITE , CHIP BEAD(60ohm, 1608)	HCB1608KF-600T30	1
....5	L853	CLZ9R005Z	FERRITE , CHIP BEAD(60ohm, 1608)	HCB1608KF-600T30	1
....5	L854	CLZ9Z014Z	FERRITE , CHIP BEAD(60ohm, 4516)	HCB4516KF-600T60	1
....5	L855	CLZ9Z014Z	FERRITE , CHIP BEAD(60ohm, 4516)	HCB4516KF-600T60	1
....5	L867	CLZ9Z014Z	FERRITE , CHIP BEAD(60ohm, 4516)	HCB4516KF-600T60	1
....5	L868	CLQ13E220MRZ	COIL , SMD POWER (22UH/3A)	CMI-SSP12L80F-SERIES	1
....5	Q901	CVTKRC103S	T.R , CHIP		1
....5	Q902	CVTKRC103S	T.R , CHIP		1
....5	Q903	CVTKRC103S	T.R , CHIP		1
....5	Q904	CVTKRC103S	T.R , CHIP		1
....5	Q905	HVTKRA102S	T.R , CHIP	KRA102S	1
....5	Q906	HVTKRA102S	T.R , CHIP	KRA102S	1
....5	Q907	HVTKRA102S	T.R , CHIP	KRA102S	1
....5	Q908	CVTUPA672T	F.E.T (NEC)		1
....5	Q909	HVTKRA102S	T.R , CHIP	KRA102S	1
....5	Q910	CVTUPA672T	F.E.T (NEC)		1
....5	Q911	CVTUPA672T	F.E.T (NEC)		1
....5	Q912	CVTUPA672T	F.E.T (NEC)		1
....5	Q913	CVTUPA672T	F.E.T (NEC)		1
....5	Q914	CVTKRC103S	T.R , CHIP		1
....5	Q915	HVTKRC111S	T.R , CHIP		1
....5	Q916	CVTKRC103S	T.R , CHIP		1
....5	Q917	HVTKRC114S	T.R , CHIP	KRC114S	1
....5	Q918	HVTKRC114S	T.R , CHIP	KRC114S	1
....5	RN01	CRJ064IJ330T	RES , CHIP NETWORK(1/16W, 33ohm, 1005X4)	MNR04M0APJ330	1
....5	RN02	CRJ064IJ330T	RES , CHIP NETWORK(1/16W, 33ohm, 1005X4)	MNR04M0APJ330	1
....5	RN03	CRJ064IJ330T	RES , CHIP NETWORK(1/16W, 33ohm, 1005X4)	MNR04M0APJ330	1
....5	RN04	CRJ064IJ330T	RES , CHIP NETWORK(1/16W, 33ohm, 1005X4)	MNR04M0APJ330	1
....5	RN05	CRJ064IJ330T	RES , CHIP NETWORK(1/16W, 33ohm, 1005X4)	MNR04M0APJ330	1
....5	RN06	CRJ064IJ330T	RES , CHIP NETWORK(1/16W, 33ohm, 1005X4)	MNR04M0APJ330	1
....5	RN07	CRJ104DJ220T	RES,4ARRAY (22 OHM)	22X4/2012	1
....5	RN08	CRJ064IJ330T	RES , CHIP NETWORK(1/16W, 33ohm, 1005X4)	MNR04M0APJ330	1
....5	RN09	CRJ064IJ330T	RES , CHIP NETWORK(1/16W, 33ohm, 1005X4)	MNR04M0APJ330	1
....5	RN10	CRJ064IJ330T	RES , CHIP NETWORK(1/16W, 33ohm, 1005X4)	MNR04M0APJ330	1
....5	RN11	CRJ064IJ330T	RES , CHIP NETWORK(1/16W, 33ohm, 1005X4)	MNR04M0APJ330	1
....5	RN12	CRJ064IJ330T	RES , CHIP NETWORK(1/16W, 33ohm, 1005X4)	MNR04M0APJ330	1
....5	RN13	CRJ104DJ220T	RES,4ARRAY (22 OHM)	22X4/2012	1
....5	RN14	CRJ064IJ330T	RES , CHIP NETWORK(1/16W, 33ohm, 1005X4)	MNR04M0APJ330	1
....5	RN15	CRJ064IJ330T	RES , CHIP NETWORK(1/16W, 33ohm, 1005X4)	MNR04M0APJ330	1
....5	RN16	CRJ064IJ330T	RES , CHIP NETWORK(1/16W, 33ohm, 1005X4)	MNR04M0APJ330	1
....5	RN17	CRJ064IJ330T	RES , CHIP NETWORK(1/16W, 33ohm, 1005X4)	MNR04M0APJ330	1

HDMI PCB ASSY					
Level	Ref. #	Part Number	Description	Drawing No (Value)	Qty
....5	RN18	CRJ064IJ330T	RES , CHIP NETWORK(1/16W, 33ohm, 1005X4)	MNR04M0APJ330	1
....5	RN19	CRJ064IJ330T	RES , CHIP NETWORK(1/16W, 33ohm, 1005X4)	MNR04M0APJ330	1
....5	RN20	CRJ064IJ330T	RES , CHIP NETWORK(1/16W, 33ohm, 1005X4)	MNR04M0APJ330	1
....5	RN21	CRJ064IJ330T	RES , CHIP NETWORK(1/16W, 33ohm, 1005X4)	MNR04M0APJ330	1
....5	RN22	CRJ064IJ330T	RES , CHIP NETWORK(1/16W, 33ohm, 1005X4)	MNR04M0APJ330	1
....5	RN23	CRJ064IJ330T	RES , CHIP NETWORK(1/16W, 33ohm, 1005X4)	MNR04M0APJ330	1
....5	RN24	CRJ104DJ220T	RES,4ARRAY (22 OHM)	22X4/2012	1
....5	RN25	CRJ104DJ220T	RES,4ARRAY (22 OHM)	22X4/2012	1
....5	RN26	CRJ064IJ330T	RES , CHIP NETWORK(1/16W, 33ohm, 1005X4)	MNR04M0APJ330	1
....5	RN27	CRJ062IJ330T	RES , CHIP NETWORK(1/16W, 33ohm, 1005X2)	MNR02M0APJ330	1
....5	RN28	CRJ064IJ330T	RES , CHIP NETWORK(1/16W, 33ohm, 1005X4)	MNR04M0APJ330	1
....5	RN29	CRJ064IJ330T	RES , CHIP NETWORK(1/16W, 33ohm, 1005X4)	MNR04M0APJ330	1
....5	RN30	CRJ062IJ330T	RES , CHIP NETWORK(1/16W, 33ohm, 1005X2)	MNR02M0APJ330	1
....5	RN31	CRJ064IJ330T	RES , CHIP NETWORK(1/16W, 33ohm, 1005X4)	MNR04M0APJ330	1
....5	RN32	CRJ064IJ330T	RES , CHIP NETWORK(1/16W, 33ohm, 1005X4)	MNR04M0APJ330	1
....5	RN33	CRJ064IJ330T	RES , CHIP NETWORK(1/16W, 33ohm, 1005X4)	MNR04M0APJ330	1
....5	RN34	CRJ104DJ100T	RES, ARRAY, 10R (1608)	10R(1608)	1
....5	RN35	CRJ104DJ100T	RES, ARRAY, 10R (1608)	10R(1608)	1
....5	RN36	CRJ062IJ330T	RES , CHIP NETWORK(1/16W, 33ohm, 1005X2)	MNR02M0APJ330	1
....5	RN37	CRJ064IJ330T	RES , CHIP NETWORK(1/16W, 33ohm, 1005X4)	MNR04M0APJ330	1
....5	RN38	CRJ104DJ100T	RES, ARRAY, 10R (1608)	10R(1608)	1
....5	RN39	CRJ104DJ100T	RES, ARRAY, 10R (1608)	10R(1608)	1
....5	RN40	CRJ064IJ330T	RES , CHIP NETWORK(1/16W, 33ohm, 1005X4)	MNR04M0APJ330	1
....5	RN41	CRJ104DJ100T	RES, ARRAY, 10R (1608)	10R(1608)	1
....5	RN42	CRJ062IJ330T	RES , CHIP NETWORK(1/16W, 33ohm, 1005X2)	MNR02M0APJ330	1
....5	RN43	CRJ064IJ330T	RES , CHIP NETWORK(1/16W, 33ohm, 1005X4)	MNR04M0APJ330	1
....5	RN44	CRJ104DJ100T	RES, ARRAY, 10R (1608)	10R(1608)	1
....5	RN45	CRJ104DJ100T	RES, ARRAY, 10R (1608)	10R(1608)	1
....5	RN46	CRJ104DJ103T	RES, ARRAY, 10K (1608)	10K(1608)	1
....5	RN47	CRJ064IJ330T	RES , CHIP NETWORK(1/16W, 33ohm, 1005X4)	MNR04M0APJ330	1
....5	RN48	CRJ104DJ103T	RES, ARRAY, 10K (1608)	10K(1608)	1
....5	RN49	CRJ064IJ330T	RES , CHIP NETWORK(1/16W, 33ohm, 1005X4)	MNR04M0APJ330	1
....5	RN50	CRJ104DJ103T	RES, ARRAY, 10K (1608)	10K(1608)	1
....5	RN51	CRJ064IJ330T	RES , CHIP NETWORK(1/16W, 33ohm, 1005X4)	MNR04M0APJ330	1
....5	RN52	CRJ064IJ330T	RES , CHIP NETWORK(1/16W, 33ohm, 1005X4)	MNR04M0APJ330	1
....5	RN53	CRJ062IJ330T	RES , CHIP NETWORK(1/16W, 33ohm, 1005X2)	MNR02M0APJ330	1
....5	RN54	CRJ064IJ330T	RES , CHIP NETWORK(1/16W, 33ohm, 1005X4)	MNR04M0APJ330	1
....5	R601	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....5	R602	CRJ10DJ473T	RES , CHIP (47K OHM)	1608 SIZE	1
....5	R603	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....5	R604	CRJ10DJ473T	RES , CHIP (47K OHM)	1608 SIZE	1
....5	R605	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....5	R606	CRJ10DJ473T	RES , CHIP (47K OHM)	1608 SIZE	1
....5	R607	CRJ10DJ473T	RES , CHIP (47K OHM)	1608 SIZE	1
....5	R608	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....5	R609	CRJ10DJ473T	RES , CHIP (47K OHM)	1608 SIZE	1
....5	R610	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....5	R611	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....5	R612	CRJ10DJ473T	RES , CHIP (47K OHM)	1608 SIZE	1
....5	R613	CRJ10DJ473T	RES , CHIP (47K OHM)	1608 SIZE	1
....5	R614	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....5	R615	CRJ10DJ473T	RES , CHIP (47K OHM)	1608 SIZE	1
....5	R616	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....5	R617	CRJ10DJ101T	RES , CHIP (100 OHM)	1608 SIZE	1
....5	R618	CRJ10DJ473T	RES , CHIP (47K OHM)	1608 SIZE	1
....5	R619	CRJ10DJ101T	RES , CHIP (100 OHM)	1608 SIZE	1
....5	R620	CRJ10DJ101T	RES , CHIP (100 OHM)	1608 SIZE	1
....5	R622	CRJ10DJ101T	RES , CHIP (100 OHM)	1608 SIZE	1
....5	R623	CRJ10DJ0R0T	RES , CHIP (O OHM)	1608 SIZE	1
....5	R624	CRJ10DJ472T	RES , CHIP (4.7K OHM)	1608 SIZE	1
....5	R625	CRJ10DJ0R0T	RES , CHIP (O OHM)	1608 SIZE	1
....5	R626	CRJ10DJ0R0T	RES , CHIP (O OHM)	1608 SIZE	1
....5	R627	CRJ10DJ220T	RES , CHIP (22 OHM)	1608 SIZE	1
....5	R628	CRJ10DJ101T	RES , CHIP (100 OHM)	1608 SIZE	1
....5	R629	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....5	R631	CRJ10DJ0R0T	RES , CHIP (O OHM)	1608 SIZE	1
....5	R632	CRJ10DJ101T	RES , CHIP (100 OHM)	1608 SIZE	1
....5	R633	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....5	R634	CRJ10DJ101T	RES , CHIP (100 OHM)	1608 SIZE	1
....5	R635	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....5	R636	CRJ10DJ105T	RES , CHIP (1M OHM)	1608 SIZE	1
....5	R637	CRJ10DJ330T	RES , CHIP (33 OHM)	1608 SIZE	1
....5	R638	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....5	R639	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....5	R640	CRJ10DJ750T	RES , CHIP (75 OHM)	1608 SIZE	1
....5	R641	CRJ10DJ750T	RES , CHIP (75 OHM)	1608 SIZE	1
....5	R642	CRJ10DJ750T	RES , CHIP (75 OHM)	1608 SIZE	1
....5	R643	CRJ10DJ750T	RES , CHIP (75 OHM)	1608 SIZE	1
....5	R644	CRJ10DJ470T	RES , CHIP (47 OHM)	1608 SIZE	1
....5	R645	CRJ10DJ470T	RES , CHIP (47 OHM)	1608 SIZE	1
....5	R646	CRJ10DJ820T	RES , CHIP (82 OHM)	1608 SIZE	1
....5	R647	CRJ10DJ470T	RES , CHIP (47 OHM)	1608 SIZE	1
....5	R648	CRJ10DJ820T	RES , CHIP (82 OHM)	1608 SIZE	1
....5	R649	CRJ10DJ820T	RES , CHIP (82 OHM)	1608 SIZE	1
....5	R650	CRJ10DJ820T	RES , CHIP (82 OHM)	1608 SIZE	1
....5	R651	CRJ10DJ470T	RES , CHIP (47 OHM)	1608 SIZE	1
....5	R652	CRJ10DJ820T	RES , CHIP (82 OHM)	1608 SIZE	1
....5	R653	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....5	R654	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....5	R655	CRJ10DJ0R0T	RES , CHIP (O OHM)	1608 SIZE	1
....5	R656	CRJ10DF1002T	RES , CHIP 1%	10K /1/10W/F	1
....5	R657	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....5	R658	CRJ10DJ470T	RES , CHIP (47 OHM)	1608 SIZE	1

HDMI PCB ASSY					
Level	Ref. #	Part Number	Description	Drawing No (Value)	Qty
....5	R659	CRJ10DJ470T	RES , CHIP (47 OHM)	1608 SIZE	1
....5	R660	CRJ10DJ470T	RES , CHIP (47 OHM)	1608 SIZE	1
....5	R662	CRJ10DJ470T	RES , CHIP (47 OHM)	1608 SIZE	1
....5	R663	CRJ10DF6801T	RES, CHIP 6.8KOHM/1608/1%		1
....5	R664	CRJ10DJ301T	RES , CHIP	1608	1
....5	R665	CRJ10DJ301T	RES , CHIP	1608	1
....5	R666	CRJ10DJ301T	RES , CHIP	1608	1
....5	R667	CRJ10DJ301T	RES , CHIP	1608	1
....5	R668	CRJ10DJ470T	RES , CHIP (47 OHM)	1608 SIZE	1
....5	R669	CRJ10DJ820T	RES , CHIP (82 OHM)	1608 SIZE	1
....5	R671	CRJ10DJ470T	RES , CHIP (47 OHM)	1608 SIZE	1
....5	R672	CRJ10DF3901T	RES, CHIP 3.9KOHM/1608/1%		1
....5	R673	CRJ10DF4301T	RES , CHIP (4.3K OHM)		1
....5	R674	CRJ10DJ151T	RES , CHIP (150 OHM)	1608 SIZE	1
....5	R675	CRJ10DJ200T	RES , CHIP(1/10W, 20OHM,1608)		1
....5	R676	CRJ10DJ820T	RES , CHIP (82 OHM)	1608 SIZE	1
....5	R677	CRJ10DJ820T	RES , CHIP (82 OHM)	1608 SIZE	1
....5	R678	CRJ10DF2200T	RES , CHIP 1% (220 OHM)	1608 SIZE	1
....5	R679	CRJ10DJ820T	RES , CHIP (82 OHM)	1608 SIZE	1
....5	R680	CRJ10DJ151T	RES , CHIP (150 OHM)	1608 SIZE	1
....5	R681	CRJ10DJ200T	RES , CHIP(1/10W, 20OHM,1608)		1
....5	R682	CRJ10DJ820T	RES , CHIP (82 OHM)	1608 SIZE	1
....5	R683	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....5	R684	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....5	R685	CRJ10DJ100T	RES , CHIP (10 OHM)	1608 SIZE	1
....5	R686	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....5	R687	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....5	R688	CRJ10DJ100T	RES , CHIP (10 OHM)	1608 SIZE	1
....5	R690	CRJ10DJ0R0T	RES , CHIP (O OHM)	1608 SIZE	1
....5	R691	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....5	R692	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....5	R693	CRJ10DJ273T	RES , CHIP (27K OHM)		1
....5	R694	CRJ10DJ123T	RES , CHIP (12K OHM)	1608 SIZE	1
....5	R695	CRJ10DJ512T	RES , CHIP (5.1K OHM)	1608 SIZE	1
....5	R696	CRJ10DJ222T	RES , CHIP (2.2K OHM)	1608 SIZE	1
....5	R697	CRJ10DJ512T	RES , CHIP (5.1K OHM)	1608 SIZE	1
....5	R698	CRJ10DJ202T	RES , CHIP (2K OHM)		1
....5	R699	CRJ10DJ102T	RES , CHIP (1K OHM)	1608 SIZE	1
....5	R700	CRJ10DJ223T	RES , CHIP (22K OHM)	1608 SIZE	1
....5	R701	CRJ10DJ101T	RES , CHIP (100 OHM)	1608 SIZE	1
....5	R702	CRJ10DJ473T	RES , CHIP (47K OHM)	1608 SIZE	1
....5	R703	CRJ10DJ102T	RES , CHIP (1K OHM)	1608 SIZE	1
....5	R704	CRJ10DJ223T	RES , CHIP (22K OHM)	1608 SIZE	1
....5	R705	CRJ10DJ101T	RES , CHIP (100 OHM)	1608 SIZE	1
....5	R706	CRJ10DJ473T	RES , CHIP (47K OHM)	1608 SIZE	1
....5	R707	CRJ10DJ102T	RES , CHIP (1K OHM)	1608 SIZE	1
....5	R708	CRJ10DJ223T	RES , CHIP (22K OHM)	1608 SIZE	1
....5	R709	CRJ10DJ101T	RES , CHIP (100 OHM)	1608 SIZE	1
....5	R710	CRJ10DJ473T	RES , CHIP (47K OHM)	1608 SIZE	1
....5	R711	CRJ10DJ470T	RES , CHIP (47 OHM)	1608 SIZE	1
....5	R712	CRJ10DJ470T	RES , CHIP (47 OHM)	1608 SIZE	1
....5	R713	CRJ10DJ102T	RES , CHIP (1K OHM)	1608 SIZE	1
....5	R714	CRJ10DJ223T	RES , CHIP (22K OHM)	1608 SIZE	1
....5	R715	CRJ10DJ101T	RES , CHIP (100 OHM)	1608 SIZE	1
....5	R716	CRJ10DJ473T	RES , CHIP (47K OHM)	1608 SIZE	1
....5	R717	CRJ10DJ470T	RES , CHIP (47 OHM)	1608 SIZE	1
....5	R718	CRJ10DJ470T	RES , CHIP (47 OHM)	1608 SIZE	1
....5	R719	CRJ10DJ470T	RES , CHIP (47 OHM)	1608 SIZE	1
....5	R720	CRJ10DJ470T	RES , CHIP (47 OHM)	1608 SIZE	1
....5	R721	CRJ10DJ470T	RES , CHIP (47 OHM)	1608 SIZE	1
....5	R722	CRJ10DJ470T	RES , CHIP (47 OHM)	1608 SIZE	1
....5	R723	CRJ10DJ182T	RES , CHIP (1.8K OHM)		1
....5	R724	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....5	R725	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....5	R726	CRJ10DJ182T	RES , CHIP (1.8K OHM)		1
....5	R728	CRJ10DJ473T	RES , CHIP (47K OHM)	1608 SIZE	1
....5	R729	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....5	R730	CRJ10DJ473T	RES , CHIP (47K OHM)	1608 SIZE	1
....5	R731	CRJ10DF8200T	RES , CHIP 1% 820 OHM		1
....5	R732	CRJ10DF1002T	RES , CHIP 1%	10K /1/10W/F	1
....5	R733	CRJ10DJ102T	RES , CHIP (1K OHM)	1608 SIZE	1
....5	R734	CRJ10DJ101T	RES , CHIP (100 OHM)	1608 SIZE	1
....5	R735	CRJ10DJ750T	RES , CHIP (75 OHM)	1608 SIZE	1
....5	R736	CRJ10DJ750T	RES , CHIP (75 OHM)	1608 SIZE	1
....5	R740	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....5	R741	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....5	R743	CRJ10DJ102T	RES , CHIP (1K OHM)	1608 SIZE	1
....5	R744	CRJ10DJ102T	RES , CHIP (1K OHM)	1608 SIZE	1
....5	R745	CRJ10DJ102T	RES , CHIP (1K OHM)	1608 SIZE	1
....5	R746	CRJ10DJ101T	RES , CHIP (100 OHM)	1608 SIZE	1
....5	R747	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....5	R748	CRJ10DJ101T	RES , CHIP (100 OHM)	1608 SIZE	1
....5	R749	CRJ10DJ101T	RES , CHIP (100 OHM)	1608 SIZE	1
....5	R751	CRJ10DJ101T	RES , CHIP (100 OHM)	1608 SIZE	1
....5	R752	CRJ10DJ101T	RES , CHIP (100 OHM)	1608 SIZE	1
....5	R753	CRJ10DJ101T	RES , CHIP (100 OHM)	1608 SIZE	1
....5	R754	CRJ10DJ101T	RES , CHIP (100 OHM)	1608 SIZE	1
....5	R755	CRJ10DJ473T	RES , CHIP (47K OHM)	1608 SIZE	1
....5	R756	CRJ10DJ101T	RES , CHIP (100 OHM)	1608 SIZE	1
....5	R757	CRJ10DJ0R0T	RES , CHIP (O OHM)	1608 SIZE	1
....5	R758	CRJ10DJ101T	RES , CHIP (100 OHM)	1608 SIZE	1
....5	R759	CRJ10DJ101T	RES , CHIP (100 OHM)	1608 SIZE	1
....5	R760	CRJ10DJ0R0T	RES , CHIP (O OHM)	1608 SIZE	1

HDMI PCB ASSY

Level	Ref. #	Part Number	Description	Drawing No (Value)	Qty
....5	R761	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....5	R762	CRJ10DJ473T	RES , CHIP (47K OHM)	1608 SIZE	1
....5	R764	CRJ10DJ472T	RES , CHIP (4.7K OHM)	1608 SIZE	1
....5	R765	CRJ10DJ102T	RES , CHIP (1K OHM)	1608 SIZE	1
....5	R766	CRJ10DJ101T	RES , CHIP (100 OHM)	1608 SIZE	1
....5	R767	CRJ10DJ101T	RES , CHIP (100 OHM)	1608 SIZE	1
....5	R768	CRJ10DJ330T	RES , CHIP (33 OHM)	1608 SIZE	1
....5	R770	CRJ10DJ473T	RES , CHIP (47K OHM)	1608 SIZE	1
....5	R771	CRJ10DJ473T	RES , CHIP (47K OHM)	1608 SIZE	1
....5	R772	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....5	R776	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....5	R777	CRJ10DF2800T	RES , CHIP(1/10W, 280ohm, 1608, 1%)	1/10W, 280OHM, 1608, 1%	1
....5	R778	CRJ10DF1002T	RES , CHIP 1%	10K /1/10W/F	1
....5	R779	CRJ10DJ301T	RES , CHIP	1608	1
....5	R780	CRJ10DJ301T	RES , CHIP	1608	1
....5	R781	CRJ10DF3901T	RES, CHIP 3.9KOHM/1608/1%		1
....5	R782	CRJ10DF2200T	RES , CHIP 1% (220 OHM)	1608 SIZE	1
....5	R783	CRJ10DF2800T	RES , CHIP(1/10W, 280ohm, 1608, 1%)	1/10W, 280OHM, 1608, 1%	1
....5	R784	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....5	R785	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....5	R786	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....5	R787	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....5	R788	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....5	R789	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....5	R791	CRJ10DJ472T	RES , CHIP (4.7K OHM)	1608 SIZE	1
....5	R792	CRJ10DJ330T	RES , CHIP (33 OHM)	1608 SIZE	1
....5	R794	CRJ10DJ472T	RES , CHIP (4.7K OHM)	1608 SIZE	1
....5	R795	CRJ10DJ472T	RES , CHIP (4.7K OHM)	1608 SIZE	1
....5	R796	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....5	R800	CRJ10DJ623T	RES , CHIP 1608 SIZE (62K OHM)		1
....5	R801	CRJ10DJ623T	RES , CHIP 1608 SIZE (62K OHM)		1
....5	R802	CRJ10DJ101T	RES , CHIP (100 OHM)	1608 SIZE	1
....5	R803	CRJ10DJ101T	RES , CHIP (100 OHM)	1608 SIZE	1
....5	R804	CRJ10DJ623T	RES , CHIP 1608 SIZE (62K OHM)		1
....5	R805	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....5	R806	CRJ10DJ563T	RES , CHIP	56K	1
....5	R807	CRJ10DJ203T	RES , CHIP	1608	1
....5	R808	CRJ10DJ512T	RES , CHIP (5.1K OHM)	1608 SIZE	1
....5	R809	CRJ10DJ820T	RES , CHIP (82 OHM)	1608 SIZE	1
....5	R810	CRJ10DJ683T	RES , CHIP (68K OHM)	1608 SIZE	1
....5	R811	CRJ10DJ683T	RES , CHIP (68K OHM)	1608 SIZE	1
....5	R812	CRJ10DJ683T	RES , CHIP (68K OHM)	1608 SIZE	1
....5	R813	CRJ10DJ223T	RES , CHIP (22K OHM)	1608 SIZE	1
....5	R814	CRJ10DJ223T	RES , CHIP (22K OHM)	1608 SIZE	1
....5	R815	CRJ10DJ223T	RES , CHIP (22K OHM)	1608 SIZE	1
....5	R818	CRJ10DJ750T	RES , CHIP (75 OHM)	1608 SIZE	1
....5	X901	HOX27000E180S	CRYSTAL , CHIP(27MHZ,SMD)	HC-49/US	1
....5	X902	COX19660E330S	X-TAL, CHIP, 19.6608 MHz (33P)		1
...4		CMY1A297	HEAT SINK		1
...4	BN82	CWB1D00705058	WIRE ASS'Y (LOCKING TYPE, 2.5MM, 7PIN, 50MM)		1
...4	CN54	CJP05GB46ZY	WAFER		1
...4	CN56	CJP16GB143ZB	DIP , SOCKET (16PIN, 2.54mm, ANGLE)		1
...4	CN57	CJP06GB143ZB	FEMALE HEADER(6P, 2.54mm)		1
...4	C706	CCEA1EH222E	CAP , ELECT	2200UF 25V	1

USB IPOD PCB ASSY

Level	Ref. #	Part Number	Description	Drawing No (Value)	Qty
..3		**COP12169G**	**AVR460 USB IPOD PCB ASS'Y**		**1**
....6	C101	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C105	CCUS1H180JA	CAP , CHIP(18PF/50V)	18PF 50V J	1
....6	C106	CCUS1H200JA	CAP , CHIP (20PF)		1
....6	C110	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C112	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C113	CCUS1H150JA	CAP , CHIP(15PF/50V)	15PF 50V J	1
....6	C114	CCUS1H150JA	CAP , CHIP(15PF/50V)	15PF 50V J	1
....6	C115	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C123	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C134	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C135	CCUS1H103KC	CAP , CHIP	0.01UF 50V K	1
....6	C136	CCUS1H330JA	CAP , CHIP	33PF 50V J	1
....6	C137	CCUS1H270JA	CAP , CHIP	27PF 50V J	1
....6	C139	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C149	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C150	CCEC1CRV471T	CAP , SMD ELECT(MANLEX RV, 16V/470, 10X10)		1
....6	C152	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C154	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C161	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C169	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C172	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C175	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C178	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C181	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C182	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C185	CCUS1H330JA	CAP , CHIP	33PF 50V J	1
....6	C186	CCUS1H330JA	CAP , CHIP	33PF 50V J	1
....6	C187	CCUS1H330JA	CAP , CHIP	33PF 50V J	1
....6	C188	CCUS1H330JA	CAP , CHIP	33PF 50V J	1
....6	C195	CCUS1H223KC	CAP , CHIP	0.022UF 50V K	1
....6	C197	CCUS1H223KC	CAP , CHIP	0.022UF 50V K	1
....6	C209	CCUS1H223KC	CAP , CHIP	0.022UF 50V K	1
....6	C213	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C214	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1

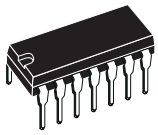
USB IPOD PCB ASSY					
Level	Ref. #	Part Number	Description	Drawing No (Value)	Qty
....6	C216	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C217	CCUS1A105KC	CAP , CHIP	1UF 10V K	1
....6	C218	CCUS1H104KC	CAP , CHIP	0.1UF 50V K	1
....6	C228	CCUS1H330JA	CAP , CHIP	33PF 50V J	1
....6	C229	CCUS1H103KC	CAP , CHIP	0.01UF 50V K	1
....6	D101	CVD1SS355T	DIODE , CHIP		1
....6	D103	CVD1SS355T	DIODE , CHIP		1
....6	D921	CVD1SS355T	DIODE , CHIP		1
....6	IC204	CVITMP92FD28FG	I.C , USB DECODER FLASH(100PIN, QFP) TOSHIBA	TMP92FD28DFG, FLASH	1
....6	IC207	CVIKIA1117S33	I.C , REGULATOR(SOT-223)	KIA1117S/F33, SOT-223	1
....6	IC208	HVIRH5VT28C	I.C , RESET (RICOH)		1
....6	IC209	CVIKIA1117S33	I.C , REGULATOR(SOT-223)	KIA1117S/F33, SOT-223	1
....6	IC211	CVINJM2505AFTE1	I.C , VIDEO AMP(4.5~9.0V , 200MW , MTP5) JRC	NJM2505AF-TE1 , JRC	1
....6	IC212	CVINJM2505AFTE1	I.C , VIDEO AMP(4.5~9.0V , 200MW , MTP5) JRC	NJM2505AF-TE1 , JRC	1
....6	IC213	CVINJM2505AFTE1	I.C , VIDEO AMP(4.5~9.0V , 200MW , MTP5) JRC	NJM2505AF-TE1 , JRC	1
....6	IC214	HVINJM2581MTE1	I.C (JRC)		1
....6	IC216	CVITL072CDR	I.C , OP AMP/SOP/8P (TI)		1
....6	IC217	HVINJM2068MDTE1	I.C , OP AMP (JRC)	NJM2068MD-TE1	1
....6	IC220	HVI74LCX32TTR	I.C , OR-GATE (ST)	74LCX32	1
....6	L101	CLZ9R001Z	FERRITE , CHIP BEAD(60ohm, 2012)	HCB2012KF-600T40	1
....6	L102	CLZ9Z014Z	FERRITE , CHIP BEAD(60ohm, 4516)	HCB4516KF-600T60	1
....6	L105	CLZ9R001Z	FERRITE , CHIP BEAD(60ohm, 2012)	HCB2012KF-600T40	1
....6	L106	CLZ9R001Z	FERRITE , CHIP BEAD(60ohm, 2012)	HCB2012KF-600T40	1
....6	Q102	HVTKRC102S	T.R , CHIP	KRC102S	1
....6	Q103	HVTKRC107S	T.R , CHIP		1
....6	Q104	HVTKRA107S	TR, CHIP		1
....6	Q105	HVTKRA107S	TR, CHIP		1
....6	Q106	HVTKRA107S	TR, CHIP		1
....6	Q107	HVTKRC107S	T.R , CHIP		1
....6	R107	CRJ10DJ473T	RES , CHIP (47K OHM)	1608 SIZE	1
....6	R108	CRJ10DJ104T	RES , CHIP (100K OHM)	1608 SIZE	1
....6	R109	CRJ10DJ104T	RES , CHIP (100K OHM)	1608 SIZE	1
....6	R110	CRJ10DJ102T	RES , CHIP (1K OHM)	1608 SIZE	1
....6	R111	CRJ10DJ104T	RES , CHIP (100K OHM)	1608 SIZE	1
....6	R117	CRJ10DJ104T	RES , CHIP (100K OHM)	1608 SIZE	1
....6	R118	CRJ10DJ104T	RES , CHIP (100K OHM)	1608 SIZE	1
....6	R119	CRJ10DJ102T	RES , CHIP (1K OHM)	1608 SIZE	1
....6	R120	CRJ10DJ102T	RES , CHIP (1K OHM)	1608 SIZE	1
....6	R121	CRJ10DJ102T	RES , CHIP (1K OHM)	1608 SIZE	1
....6	R122	CRJ10DJ102T	RES , CHIP (1K OHM)	1608 SIZE	1
....6	R123	CRJ10DJ102T	RES , CHIP (1K OHM)	1608 SIZE	1
....6	R179	CRJ10DJ4R7T	RES , CHIP (4.7 OHM)	1608 SIZE	1
....6	R182	CRJ10DJ101T	RES , CHIP (100 OHM)	1608 SIZE	1
....6	R183	CRJ10DJ101T	RES , CHIP (100 OHM)	1608 SIZE	1
....6	R185	CRJ10DJ101T	RES , CHIP (100 OHM)	1608 SIZE	1
....6	R186	CRJ10DJ101T	RES , CHIP (100 OHM)	1608 SIZE	1
....6	R188	CRJ10DJ101T	RES , CHIP (100 OHM)	1608 SIZE	1
....6	R189	CRJ10DJ101T	RES , CHIP (100 OHM)	1608 SIZE	1
....6	R192	CRJ10DJ222T	RES , CHIP (2.2K OHM)	1608 SIZE	1
....6	R193	CRJ10DJ104T	RES , CHIP (100K OHM)	1608 SIZE	1
....6	R195	CRJ10DJ221T	RES , CHIP (220 OHM)	1608 SIZE	1
....6	R196	CRJ10DJ221T	RES , CHIP (220 OHM)	1608 SIZE	1
....6	R201	CRJ10DF4992T	RES , CHIP(49.9K, 1608, 1%)		1
....6	R202	CRJ10DF4992T	RES , CHIP(49.9K, 1608, 1%)		1
....6	R203	CRJ10DF4992T	RES , CHIP(49.9K, 1608, 1%)		1
....6	R204	CRJ10DF4992T	RES , CHIP(49.9K, 1608, 1%)		1
....6	R205	CRJ10DF5101T	RES. CHIP (5.1K 1%)	1608 SIZE	1
....6	R206	CRJ10DF5101T	RES. CHIP (5.1K 1%)	1608 SIZE	1
....6	R207	CRJ10DF1002T	RES , CHIP 1%	10K /1/10W/F	1
....6	R208	CRJ10DF1002T	RES , CHIP 1%	10K /1/10W/F	1
....6	R209	CRJ10DJ104T	RES , CHIP (100K OHM)	1608 SIZE	1
....6	R210	CRJ10DJ104T	RES , CHIP (100K OHM)	1608 SIZE	1
....6	R213	CRJ10DF1001T	RES , CHIP 1%	1K/1/10W/F	1
....6	R214	CRJ10DF4992T	RES , CHIP(49.9K, 1608, 1%)		1
....6	R215	CRJ10DF4992T	RES , CHIP(49.9K, 1608, 1%)		1
....6	R222	CRJ10DJ220T	RES , CHIP (22 OHM)	1608 SIZE	1
....6	R223	CRJ10DJ220T	RES , CHIP (22 OHM)	1608 SIZE	1
....6	R224	CRJ10DJ220T	RES , CHIP (22 OHM)	1608 SIZE	1
....6	R225	CRJ10DJ220T	RES , CHIP (22 OHM)	1608 SIZE	1
....6	R232	CRJ10DJ750T	RES , CHIP (75 OHM)	1608 SIZE	1
....6	R233	CRJ10DJ750T	RES , CHIP (75 OHM)	1608 SIZE	1
....6	R234	CRJ10DJ750T	RES , CHIP (75 OHM)	1608 SIZE	1
....6	R235	CRJ10DJ750T	RES , CHIP (75 OHM)	1608 SIZE	1
....6	R236	CRJ10DJ750T	RES , CHIP (75 OHM)	1608 SIZE	1
....6	R237	CRJ10DJ750T	RES , CHIP (75 OHM)	1608 SIZE	1
....6	R238	CRJ10DJ0R0T	RES , CHIP (O OHM)	1608 SIZE	1
....6	R240	CRJ10DJ473T	RES , CHIP (47K OHM)	1608 SIZE	1
....6	R242	CRJ10DJ222T	RES , CHIP (2.2K OHM)	1608 SIZE	1
....6	R243	CRJ10DJ222T	RES , CHIP (2.2K OHM)	1608 SIZE	1
....6	R244	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....6	R245	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....6	R246	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....6	R247	CRJ10DJ473T	RES , CHIP (47K OHM)	1608 SIZE	1
....6	R248	CRJ10DJ221T	RES , CHIP (220 OHM)	1608 SIZE	1
....6	R249	CRJ10DJ221T	RES , CHIP (220 OHM)	1608 SIZE	1
....6	R250	CRJ10DJ473T	RES , CHIP (47K OHM)	1608 SIZE	1
....6	R251	CRJ10DJ101T	RES , CHIP (100 OHM)	1608 SIZE	1
....6	R260	CRJ10DJ103T	RES , CHIP (10K OHM)	1608 SIZE	1
....6	R297	CRJ10DJ473T	RES , CHIP (47K OHM)	1608 SIZE	1
....6	R298	CRJ10DJ473T	RES , CHIP (47K OHM)	1608 SIZE	1
....6	R299	CRJ10DJ473T	RES , CHIP (47K OHM)	1608 SIZE	1
....6	R300	CRJ10DJ473T	RES , CHIP (47K OHM)	1608 SIZE	1
....6	R301	CRJ10DF1001T	RES , CHIP 1%	1K/1/10W/F	1

USB IPOD PCB ASSY					
Level	**Ref. #**	**Part Number**	**Description**	**Drawing No (Value)**	**Qty**
....6	R302	CRJ10DJ0R0T	RES , CHIP (O OHM)	1608 SIZE	1
....6	R303	CRJ10DJ750T	RES , CHIP (75 OHM)	1608 SIZE	1
....6	R304	CRJ10DJ750T	RES , CHIP (75 OHM)	1608 SIZE	1
....6	R305	CRJ10DJ750T	RES , CHIP (75 OHM)	1608 SIZE	1
....6	R306	CRJ10DJ473T	RES , CHIP (47K OHM)	1608 SIZE	1
....6	R308	CRJ10DF1001T	RES , CHIP 1%	1K/1/10W/F	1
....6	R309	CRJ10DJ473T	RES , CHIP (47K OHM)	1608 SIZE	1
....6	R310	CRJ10DJ221T	RES , CHIP (220 OHM)	1608 SIZE	1
....6	R352	CRJ10DJ0R0T	RES , CHIP (O OHM)	1608 SIZE	1
....6	R354	CRJ10DJ0R0T	RES , CHIP (O OHM)	1608 SIZE	1
....6	R355	CRJ10DJ0R0T	RES , CHIP (O OHM)	1608 SIZE	1
....6	R500	CRJ10DJ4R7T	RES , CHIP (4.7 OHM)	1608 SIZE	1
....5	C104	CCEA1CH101T	CAP , ELECT	100UF 16V	1
....5	C109	CCEA1CH221T	CAP , ELECT	220UF 16V	1
....5	C111	CCEA0JH102T	CAP , ELECT	1000UF 6.3V	1
....5	C138	CCEA1CH101T	CAP , ELECT	100UF 16V	1
....5	C151	CCEA1CH101T	CAP , ELECT	100UF 16V	1
....5	C153	CCEA1CH101T	CAP , ELECT	100UF 16V	1
....5	C157	CCEA1CH471T	CAP , ELECT	470UF 16V	1
....5	C163	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C164	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C165	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C166	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C167	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C168	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C170	CCEA1CH470T	CAP , ELECT	47UF 16V	1
....5	C171	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C173	CCEA1CH470T	CAP , ELECT	47UF 16V	1
....5	C174	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C176	CCEA1CH470T	CAP , ELECT	47UF 16V	1
....5	C177	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C179	CCEA1CH470T	CAP , ELECT	47UF 16V	1
....5	C189	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C190	CCEA1HH100T	CAP , ELECT	10UF 50V	1
....5	C196	CCEA1EH221T	CAP , ELECT	220UF 25V	1
....5	C198	CCEA1EH221T	CAP , ELECT	220UF 25V	1
....5	C215	CCEA1CH471T	CAP , ELECT	470UF 16V	1
....5	IC223	HVIKA78L05AZT	REGULATOR, +5V	KA78LXXAZTA	1
...4	BK11	CMD1A569	BRACKET , PCB		1
...4	BK12	CMD1A569	BRACKET , PCB		1
...4	BN50	CJP05GA19ZY	WAFER , STRAIGHT		1
...4	BN55	CJP26GA240ZB	PIN HEADER (26P, 2.54mm), STRAIGHT TYPE		1
...4	CN51	CJP07GA01ZY	WAFER , STRAIGHT(7PIN)		1
...4	CN58	CJP07GA01ZY	WAFER , STRAIGHT(7PIN)		1
...4	CN81	CJP44GA241ZB	FEMALE HEADER (44P,2.54mm) , DIP/STRAIGHT		1
...4	IC201	BVIKP1010B	IC, PHOTO COUPLER (COSMO)		1
...4	IC202	BVIKP1010B	IC, PHOTO COUPLER (COSMO)		1
...4	IC203	HVIKIA78R05PI	REGULATOR (5V OUTPUT LOW DROP)	KIA78R05PI	1
...4	IC215	CVITMP86F409NG	I.C , IPOD UART BUFFER (TOSHIBA)		1
...4	JK11	CJJ2D008Z	JACK , STEREO		1
...4	JK12	CJJ2D008Z	JACK , STEREO		1
...4	JK13	CJJ2D008Z	JACK , STEREO		1
...4	JK14	CJJ2D008Z	JACK , STEREO		1
...4	JK15	CJJ2D008Z	JACK , STEREO		1
...4	JK17	CJJ9L016Z	JACK , IPOD CONNECTOR (36PIN)	SCSI36P	1
...4	X101	COX09000E150C	CRYSTAL(9MHZ)		1
...4	X103	HOX12000E200C	12MHz CRYSTAL		1
...4	X104	HOX00032K120I	CRYSTAL , 32.768KHZ	TUNING FORK	1

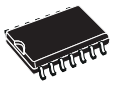
74ACT04

HEX INVERTER

- HIGH SPEED: t_{PD} = 5.0ns (TYP.) at V_{CC} = 5V
- LOW POWER DISSIPATION: I_{CC} = 2µA(MAX.) at T_A=25°C
- COMPATIBLE WITH TTL OUTPUTS V_{IH} = 2V (MIN.), V_{IL} = 0.8V (MAX.)
- 50Ω TRANSMISSION LINE DRIVING CAPABILITY
- SYMMETRICAL OUTPUT IMPEDANCE: $|I_{OH}| = I_{OL}$ = 24mA (MIN)
- BALANCED PROPAGATION DELAYS: $t_{PLH} \cong t_{PHL}$
- OPERATING VOLTAGE RANGE: V_{CC} (OPR) = 4.5V to 5.5V
- PIN AND FUNCTION COMPATIBLE WITH 74 SERIES 04
- IMPROVED LATCH-UP IMMUNITY



DIP



SOP

TSSOP

ORDER CODES

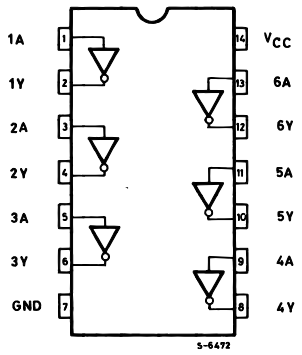
PACKAGE	TUBE	T & R
DIP	74ACT04B	
SOP	74ACT04M	74ACT04MTR
TSSOP		74ACT04TTR

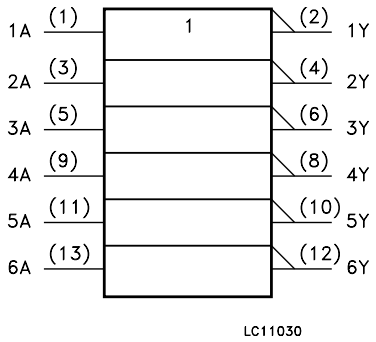
DESCRIPTION

The 74ACT04 is an advanced high-speed CMOS HEX INVERTER fabricated with sub-micron silicon gate and double-layer metal wiring C^2MOS technology.
The internal circuit is composed of 3 stages including buffer output, which enables high noise immunity and stable output.

The device is designed to interface directly High Speed CMOS systems with TTL, NMOS and CMOS output voltage levels.
All inputs and outputs are equipped with protection circuits against static discharge, giving them 2KV ESD immunity and transient excess voltage.

PIN CONNECTION AND IEC LOGIC SYMBOLS





3.3V CMOS 1-TO-2 CLOCK DRIVER

IDT74FCT38072

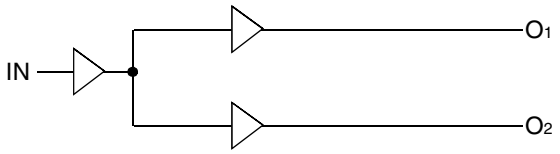
FEATURES:

- **Advanced CMOS Technology**
- **Guaranteed low skew < 100ps (max.)**
- **Very low duty cycle distortion< 350ps (max.)**
- **High speed propagation delay< 3ns (max.)**
- **Very low CMOS power levels**
- **TTL compatible inputs and outputs**
- **1:2 fanout**
- **Maximum output rise and fall time < 1ns (max.)**
- **Low input capacitance: 3pF typical**
- **Vcc = 3.3V ± 0.3V**
- **Inputs can be driven from 3.3V or 5V components**
- **Operating frequency up to 166MHz**
- **Available in SOIC package**

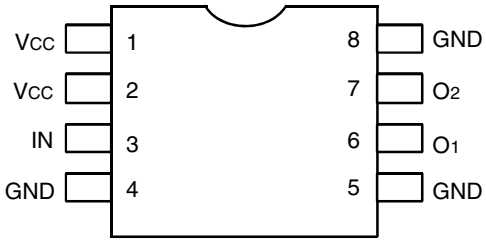
DESCRIPTION:

The FCT38072 is a 3.3V clock driver built using advanced CMOS technology. This low skew clock driver offers 1:2 fanout. The large fanout from a single input reduces loading on the preceding driver and provides an efficient clock distribution network. Multiple power and grounds reduce noise. Typical applications are clock and signal distribution.

FUNCTIONAL BLOCK DIAGRAM



PIN CONFIGURATION



SOIC
TOP VIEW

The IDT logo is a registered trademark of Integrated Device Technology, Inc.

© 2004 Integrated Device Technology, Inc.

TOSHIBA TC74HCU04AP/AF/AFN

TOSHIBA CMOS DIGITAL INTEGRATED CIRCUIT SILICON MONOLITHIC

TC74HCU04AP, TC74HCU04AF, TC74HCU04AFN

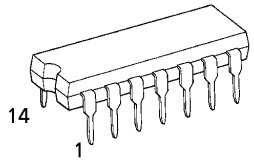
HEX INVERTER

(Note) The JEDEC SOP (FN) is not available in Japan.

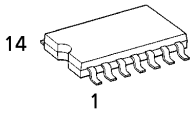
The TC74HCU04A is a high speed CMOS INVERTER fabricated with silicon gate C^2MOS technology.
It achieves the high speed operation similar to equivalent LSTTL while maintaining the CMOS low power dissipation.
Since the internal circit is composed of a single stage inverter, it can be used in analog applications such as crystal oscllators.
All inputs are equipped with protection circuits against static discharge or transient excess voltage.

FEATURES :

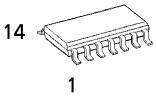
- High Speed ····· t_{pd} = 4ns(typ.) at V_{CC} = 5V
- Low Power Dissipation ····· I_{CC} = 1 μA(Max.) at Ta = 25°C
- High Noise Immunity ····· $V_{NIH} = V_{NIH}$ = 10% V_{CC} (Min.)
- Output Drive Capability ····· 10 LSTTL Loads
- Symmetrical Output Impedance ··· $|I_{OH}| = I_{OL}$ = 4mA(Min.)
- Balanced Propagation Delays ····· $t_{pLH} \simeq t_{pHL}$
- Wide Operating Voltage Range ·· V_{CC}(opr.) = 2V ~ 6V
- Pin and Function Compatible with 74LS04



P (DIP14-P-300-2.54)
Weight : 0.96g (Typ.)

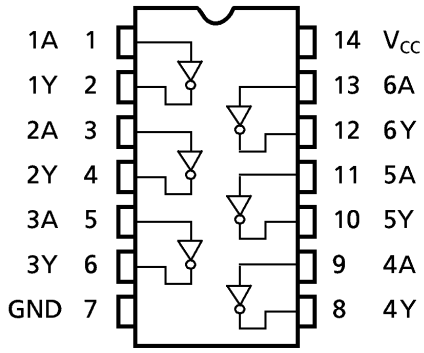


F (SOP14-P-300-1.27)
Weight : 0.18g (Typ.)



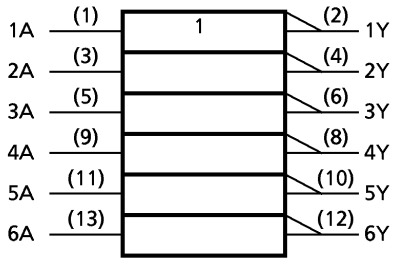
FN (SOL14-P-150-1.27)
Weight : 0.12g (Typ.)

PIN ASSIGNMENT



(TOP VIEW)

IEC LOGIC SYMBOL



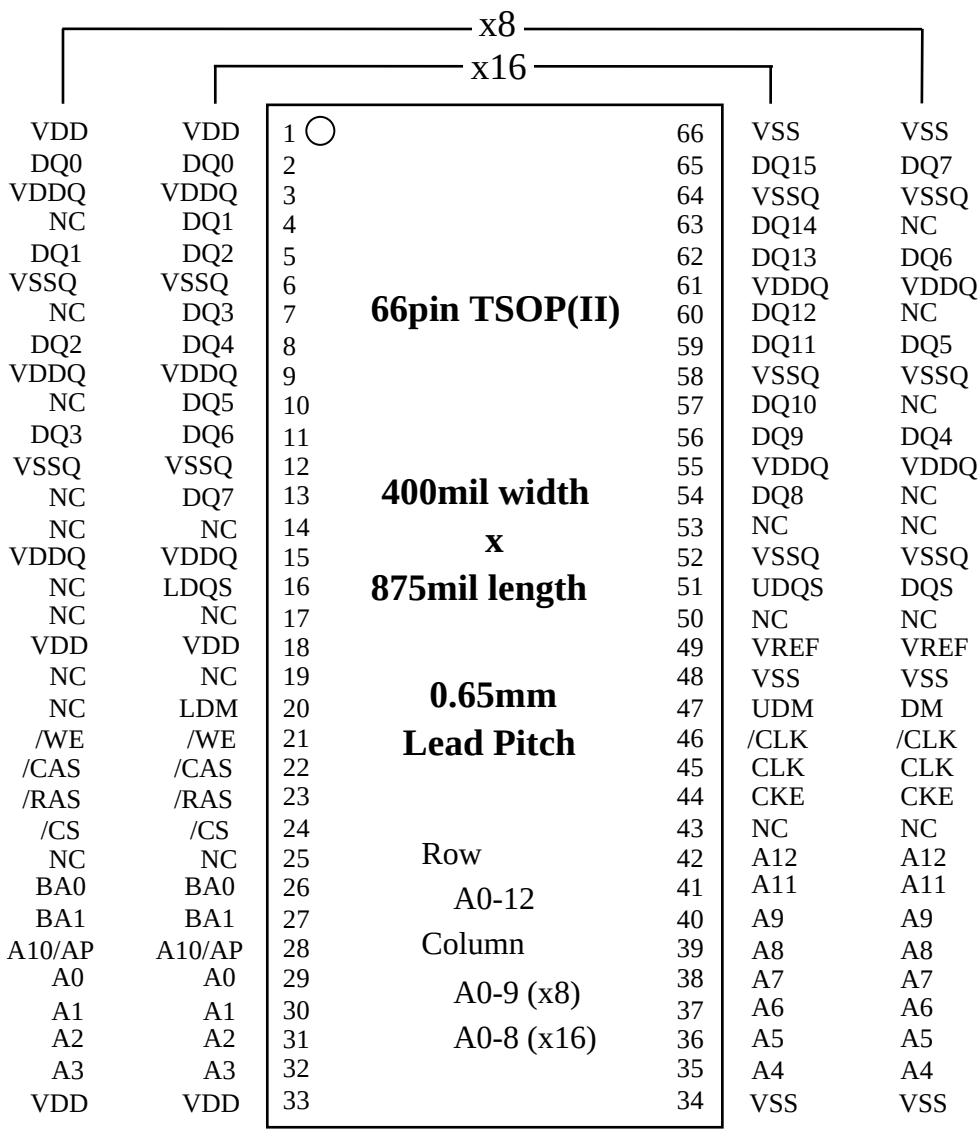
TRUTH TABLE

A	Y
L	H
H	L

961001EBA2

● TOSHIBA is continually working to improve the quality and the reliability of its products. Nevertheless, semiconductor devices in general can malfunction or fail due to their inherent electrical sensitivity and vulnerability to physical stress. It is the responsibility of the buyer, when utilizing TOSHIBA products, to observe standards of safety, and to avoid situations in which a malfunction or failure of a TOSHIBA product could cause loss of human life, bodily injury or damage to property. In developing your designs, please ensure that TOSHIBA products are used within specified operating ranges as set forth in the most recent products specifications. Also, please keep in mind the precautions and conditions set forth in the TOSHIBA Semiconductor Reliability Handbook.

Pin Assignment (Top View) 66-pin TSOP



VDD	VDD	1	66	VSS	VSS
DQ0	DQ0	2	65	DQ15	DQ7
VDDQ	VDDQ	3	64	VSSQ	VSSQ
NC	DQ1	4	63	DQ14	NC
DQ1	DQ2	5	62	DQ13	DQ6
VSSQ	VSSQ	6	61	VDDQ	VDDQ
NC	DQ3	7	60	DQ12	NC
DQ2	DQ4	8	59	DQ11	DQ5
VDDQ	VDDQ	9	58	VSSQ	VSSQ
NC	DQ5	10	57	DQ10	NC
DQ3	DQ6	11	56	DQ9	DQ4
VSSQ	VSSQ	12	55	VDDQ	VDDQ
NC	DQ7	13	54	DQ8	NC
NC	NC	14	53	NC	NC
VDDQ	VDDQ	15	52	VSSQ	VSSQ
NC	LDQS	16	51	UDQS	DQS
NC	NC	17	50	NC	NC
VDD	VDD	18	49	VREF	VREF
NC	NC	19	48	VSS	VSS
NC	LDM	20	47	UDM	DM
/WE	/WE	21	46	/CLK	/CLK
/CAS	/CAS	22	45	CLK	CLK
/RAS	/RAS	23	44	CKE	CKE
/CS	/CS	24	43	NC	NC
NC	NC	25	42	A12	A12
BA0	BA0	26	41	A11	A11
BA1	BA1	27	40	A9	A9
A10/AP	A10/AP	28	39	A8	A8
A0	A0	29	38	A7	A7
A1	A1	30	37	A6	A6
A2	A2	31	36	A5	A5
A3	A3	32	35	A4	A4
VDD	VDD	33	34	VSS	VSS

CLK, /CLK	**: Master Clock**
CKE	**: Clock Enable**
/CS	**: Chip Select**
/RAS	**: Row Address Strobe**
/CAS	**: Column Address Strobe**
/WE	**: Write Enable**
DQ0-15	**: Data I/O (x16)**
DQ0-7	**: Data I/O (x8)**
UDM, LDM	**: Write Mask (x16)**
DM	**: Write Mask (x8)**
UDQS, LDQS	**: Data Strobe (x16)**
DQS	**: Data Strobe (x8)**

A0-12	**: Address Input**
BA0,1	**: Bank Address Input**
Vdd	**: Power Supply**
VddQ	**: Power Supply for Output**
Vss	**: Ground**
VssQ	**: Ground for Output**

PIN CONFIGURATION AND FUNCTION DESCRIPTIONS

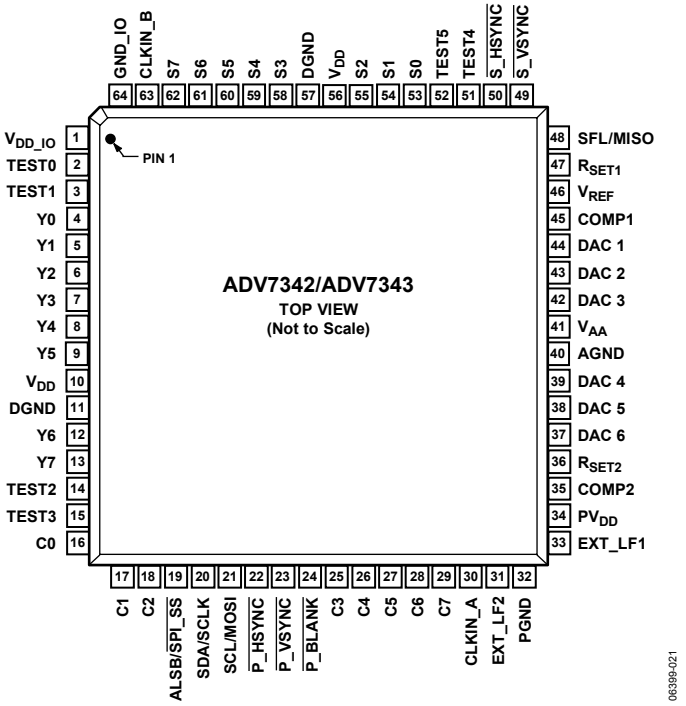


Figure 21. Pin Configuration

Table 13. Pin Function Descriptions

Pin No.	Mnemonic	Input/ Output	Description
13, 12, 9 to 4	Y7 to Y0	I	8-Bit Pixel Port. Y0 is the LSB. Refer to Table 31 for input modes.
29 to 25, 18 to 16	C7 to C0	I	8-Bit Pixel Port. C0 is the LSB. Refer to Table 31 for input modes.
62 to 58, 55 to 53	S7 to S0	I	8-Bit Pixel Port. S0 is the LSB. Refer to Table 31 for input modes.
52, 51, 15, 14, 3, 2	TEST5 to TEST0	I	Unused. These pins should be connected to DGND.
30	CLKIN_A	I	Pixel Clock Input for HD Only (74.25 MHz), ED[1] Only (27 MHz or 54 MHz) or SD Only (27 MHz).
63	CLKIN_B	I	Pixel Clock Input for Dual Modes Only. Requires a 27 MHz reference clock for ED operation or a 74.25 MHz reference clock for HD operation.
50	$\overline{\text{S\_HSYNC}}$	I/O	SD Horizontal Synchronization Signal. This pin can also be configured to output an SD, ED, or HD horizontal synchronization signal. See the External Horizontal and Vertical Synchronization Control section.
49	$\overline{\text{S\_VSYNC}}$	I/O	SD Vertical Synchronization Signal. This pin can also be configured to output an SD, ED, or HD vertical synchronization signal. See the External Horizontal and Vertical Synchronization Control section.
22	$\overline{\text{P\_HSYNC}}$	I	ED/HD Horizontal Synchronization Signal. See the External Horizontal and Vertical Synchronization Control section.
23	$\overline{\text{P\_VSYNC}}$	I	ED/HD Vertical Synchronization Signal. See the External Horizontal and Vertical Synchronization Control section.
24	$\overline{\text{P\_BLANK}}$	I	ED/HD Blanking Signal. See the External Horizontal and Vertical Synchronization Control section.
48	SFL/MISO	I/O	Multifunctional Pin: Subcarrier Frequency Lock (SFL) Input/SPI Data Output. The SFL input is used to drive the color subcarrier DDS system, timing reset, or subcarrier reset.
47	R_{SET1}	I	This pin is used to control the amplitudes of the DAC 1, DAC 2, and DAC 3 outputs. For full-drive operation (for example, into a 37.5 Ω load), a 510 Ω resistor must be connected from R_{SET1} to AGND. For low drive operation (for example, into a 300 Ω load), a 4.12 kΩ resistor must be connected from R_{SET1} to AGND.

Pin No.	Mnemonic	Input/ Output	Description
36	R_{SET2}	I	This pin is used to control the amplitudes of the DAC 4, DAC 5, and DAC 6 outputs. A 4.12 kΩ resistor must be connected from R_{SET2} to AGND.
45, 35	COMP1, COMP2	O	Compensation Pins. Connect a 2.2 nF capacitor from both COMP pins to V_{AA}.
44, 43, 42	DAC 1, DAC 2, DAC 3	O	DAC Outputs. Full and low drive capable DACs.
39, 38, 37	DAC 4, DAC 5, DAC 6	O	DAC Outputs. Low drive only capable DACs.
21	SCL/MOSI	I	Multifunctional Pin: I²C Clock Input/SPI Data Input.
20	SDA/SCLK	I/O	Multifunctional Pin: I²C Data Input/Output. Also, SPI clock input.
19	ALSB/$\overline{\text{SPI\_SS}}$	I	Multifunctional Pin: This signal sets up the LSB[2] of the MPU I²C address. Also, SPI slave select.
46	V_{REF}		Optional External Voltage Reference Input for DACs or Voltage Reference Output.
41	V_{AA}	P	Analog Power Supply (3.3 V).
10, 56	V_{DD}	P	Digital Power Supply (1.8 V). For dual-supply configurations, V_{DD} can be connected to other 1.8 V supplies through a ferrite bead or suitable filtering.
1	V_{DD_IO}	P	Input/Output Digital Power Supply (3.3 V).
34	PV_{DD}	P	PLL Power Supply (1.8 V). For dual-supply configurations, PV_{DD} can be connected to other 1.8 V supplies through a ferrite bead or suitable filtering.
33	EXT_LF1	I	External Loop Filter for On-Chip PLL 1.
31	EXT_LF2	I	External Loop Filter for On-Chip PLL 2.
32	PGND	G	PLL Ground Pin.
40	AGND	G	Analog Ground Pin.
11, 57	DGND	G	Digital Ground Pin.
64	GND_IO	G	Input/Output Supply Ground Pin.

[1] ED = enhanced definition = 525p and 625p.
[2] LSB = least significant bit. In the ADV7342, setting the LSB to 0 sets the I²C address to 0xD4. Setting it to 1 sets the I²C address to 0xD6. In the ADV7343, setting the LSB to 0 sets the I²C address to 0x54. Setting it to 1 sets the I²C address to 0x56.

Features

- **Low-voltage and Standard-voltage Operation**
  - **2.7 (V_{CC} = 2.7V to 5.5V)**
  - **1.8 (V_{CC} = 1.8V to 5.5V)**
- **Internally Organized 128 x 8 (1K), 256 x 8 (2K), 512 x 8 (4K), 1024 x 8 (8K) or 2048 x 8 (16K)**
- **Two-wire Serial Interface**
- **Schmitt Trigger, Filtered Inputs for Noise Suppression**
- **Bidirectional Data Transfer Protocol**
- **100 kHz (1.8V) and 400 kHz (2.7V, 5V) Compatibility**
- **Write Protect Pin for Hardware Data Protection**
- **8-byte Page (1K, 2K), 16-byte Page (4K, 8K, 16K) Write Modes**
- **Partial Page Writes Allowed**
- **Self-timed Write Cycle (5 ms max)**
- **High-reliability**
  - **Endurance: 1 Million Write Cycles**
  - **Data Retention: 100 Years**
- **Automotive Grade and Lead-free/Halogen-free Devices Available**
- **8-lead PDIP, 8-lead JEDEC SOIC, 8-lead MAP, 5-lead SOT23, 8-lead TSSOP and 8-ball dBGA2 Packages**
- **Die Sales: Wafer Form, Waffle Pack and Bumped Wafers**

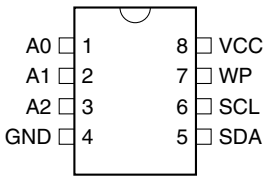
Description

The AT24C01A/02/04/08A/16A provides 1024/2048/4096/8192/16384 bits of serial electrically erasable and programmable read-only memory (EEPROM) organized as 128/256/512/1024/2048 words of 8 bits each. The device is optimized for use in many industrial and commercial applications where low-power and low-voltage operation are essential. The AT24C01A/02/04/08A/16A is available in space-saving 8-lead PDIP, 8-lead JEDEC SOIC, 8-lead MAP, 5-lead SOT23 (AT24C01A/AT24C02/AT24C04), 8-lead TSSOP, and 8-ball dBGA2 packages and is accessed via a Two-wire serial interface. In addition, the entire family is available in 2.7V (2.7V to 5.5V) and 1.8V (1.8V to 5.5V) versions.

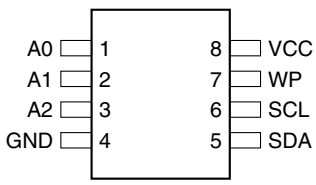
Table 1. Pin Configuration

Pin Name	Function
A0 - A2	Address Inputs
SDA	Serial Data
SCL	Serial Clock Input
WP	Write Protect
NC	No Connect
GND	Ground
VCC	Power Supply

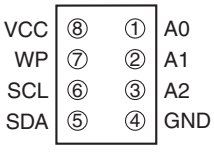
8-lead TSSOP



8-lead SOIC

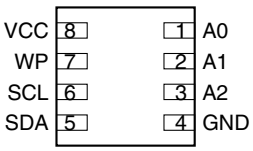


8-ball dBGA2



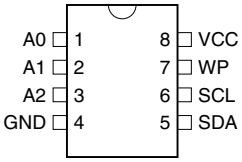
Bottom View

8-lead MAP

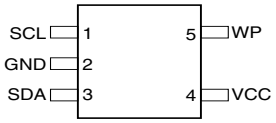


Bottom View

8-lead PDIP



5-lead SOT23



Two-wire Serial EEPROM

1K (128 x 8)

2K (256 x 8)

4K (512 x 8)

8K (1024 x 8)

16K (2048 x 8)

AT24C01A
AT24C02
AT24C04
AT24C08A
AT24C16A

0180V–SEEPR–8/05

8. Device Pin-Out Diagram

8.1 128-Pin LQFP Pin-Out Diagram

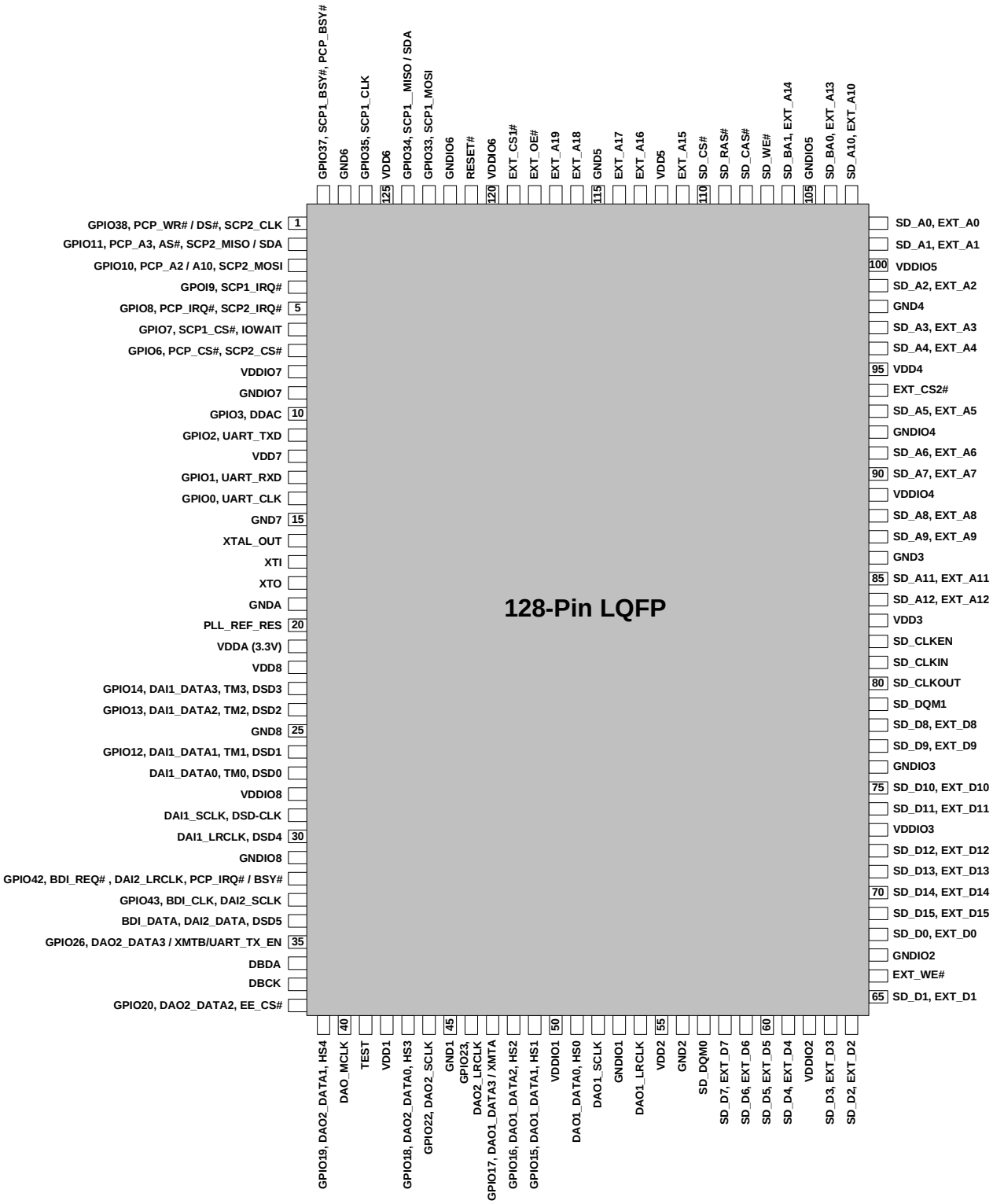
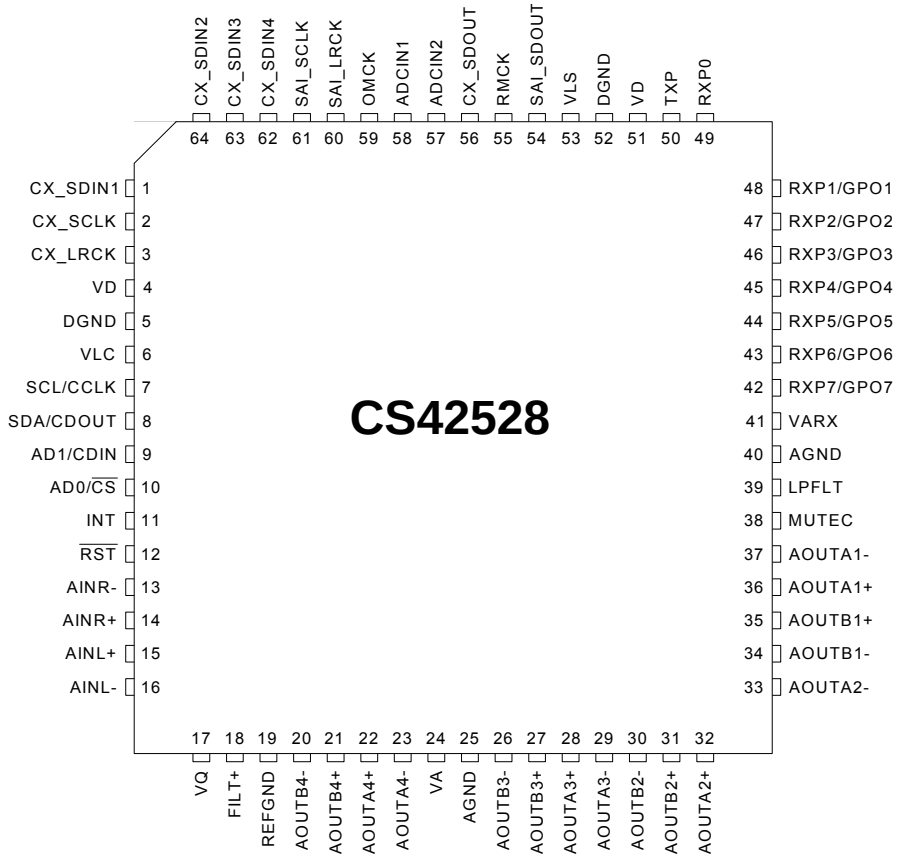


Figure 15. 128-Pin LQFP Pin-Out

Copyright 2008 Cirrus Logic, Inc.

2. PIN DESCRIPTIONS



Pin Name	#	Pin Description
CX_SDIN1 **CX_SDIN2** **CX_SDIN3** **CX_SDIN4**	1 64 63 62	**Codec Serial Audio Data Input** (*Input*) - Input for two's complement serial audio data.
CX_SCLK	2	**CODEC Serial Clock** *(Input/Output)* - Serial clock for the CODEC serial audio interface.
CX_LRCK	3	**CODEC Left Right Clock** (*Input*/*Output*) - Determines which channel, Left or Right, is currently active on the CODEC serial audio data line.
VD	4 51	**Digital Power** (*Input*) - Positive power supply for the digital section.
DGND	5 52	**Digital Ground** (*Input*) - Ground reference. Should be connected to digital ground.
VLC	6	**Control Port Power** (*Input*) **-** Determines the required signal level for the control port.
SCL/CCLK	7	**Serial Control Port Clock** (*Input*) - Serial clock for the serial control port. Requires an external pull-up resistor to the logic interface voltage in I^2C mode as shown in the Typical Connection Diagram.
SDA/CDOUT	8	**Serial Control Data** (*Input/Output*) **-** SDA is a data I/O line in I^2C mode and requires an external pull-up resistor to the logic interface voltage, as shown in the Typical Connection Diagram. CDOUT is the output data line for the control port interface in SPI mode.
AD1/CDIN	9	**Address Bit 1 (I^2C)/Serial Control Data (SPI)** (*Input*) - AD1 is a chip address pin in I^2C mode; CDIN is the input data line for the control port interface in SPI mode.

AD0/$\overline{CS}$	10	**Address Bit 0 (I^2C)/Control Port Chip Select (SPI)** *(Input)* **-** AD0 is a chip address pin in I^2C mode; $\overline{CS}$ is the chip select signal in SPI mode.
INT	11	**Interrupt** *(Output)* - The CS42528 will generate an interrupt condition as per the Interrupt Mask register. See “Interrupts” on page 40 for more details.
$\overline{RST}$	12	**Reset** (*Input*) - The device enters a low power mode and all internal registers are reset to their default settings when low.
AINR- **AINR+**	13 14	**Differential Right Channel Analog Input** (*Input*) - Signals are presented differentially to the delta-sigma modulators via the AINR+/- pins.
AINL+ **AINL-**	15 16	**Differential Left Channel Analog Input** (*Input*) - Signals are presented differentially to the delta-sigma modulators via the AINL+/- pins.
VQ	17	**Quiescent Voltage** (*Output*) **-** Filter connection for internal quiescent reference voltage.
FILT+	18	**Positive Voltage Reference** (*Output*) - Positive reference voltage for the internal sampling circuits.
REFGND	19	**Reference Ground** (*Input*) - Ground reference for the internal sampling circuits.
AOUTA1 +,- **AOUTB1 +,-** **AOUTA2 +,-** **AOUTB2 +,-** **AOUTA3 +,-** **AOUTB3 +,-** **AOUTA4 +,-** **AOUTB4 +,-**	36,37 35,34 32,33 31,30 28,29 27,26 22,23 21,20	**Differential Analog Output** (*Output*) - The full-scale differential analog output level is specified in the Analog Characteristics specification table.
VA **VARX**	24 41	**Analog Power** (*Input*) - Positive power supply for the analog section.
AGND	25 40	**Analog Ground** (*Input*) - Ground reference. Should be connected to analog ground.
MUTEC	38	**Mute Control** (*Output*) - The Mute Control pin outputs high impedance following an initial power-on condition or whenever the PDN bit is set to a ‘1’, forcing the codec into power-down mode. The signal will remain in a high impedance state as long as the part is in power-down mode. The Mute Control pin goes to the selected “active” state during reset, muting, or if the master clock to left/right clock frequency ratio is incorrect. This pin is intended to be used as a control for external mute circuits to prevent the clicks and pops that can occur in any single supply system. The use of external mute circuits are not mandatory but may be desired for designs requiring the absolute minimum in extraneous clicks and pops.
LPFLT	39	**PLL Loop Filter** (*Output*) - An RC network should be connected between this pin and ground.
RXP7/GPO7 **RXP6/GPO6** **RXP5/GPO5** **RXP4/GPO4** **RXP3/GPO3** **RXP2/GPO2** **RXP1/GPO1**	42 43 44 45 46 47 48	**S/PDIF Receiver Input/ General Purpose Output** (*Input/Output*) - Receiver inputs for S/PDIF encoded data. The CS42528 has an internal 8:2 multiplexer to select the active receiver port, according to the Receiver Mode Control 2 register. These pins can also be configured as general purpose output pins, ADC Overflow indicators or Mute Control outputs according to the RXP/General Purpose Pin Control registers.
RXP0	49	**S/PDIF Receiver Input** (*Input*) - Dedicated receiver input for S/PDIF encoded data.
TXP	50	**S/PDIF Transmitter Output** (*Output*) - S/PDIF encoded data output, mapped directly from one of the receiver inputs as indicated by the Receiver Mode Control 2 register.
VLS	53	**Serial Port Interface Power** (*Input*) - Determines the required signal level for the serial port interfaces.
SAI_SDOUT	54	**Serial Audio Interface Serial Data Output** (*Output*) - Output for two’s complement serial audio PCM data from the S/PDIF incoming stream. This pin can also be configured to transmit the output of the internal and external ADCs.
RMCK	55	**Recovered Master Clock** (*Output*) - Recovered master clock output from the External Clock Reference (OMCK, pin 59) or the PLL which is locked to the incoming S/PDIF stream or CX_LRCK.

CX_SDOUT	56	**CODEC Serial Data Output** (*Output*) - Output for two's complement serial audio data from the internal and external ADCs.
ADCIN1 **ADCIN2**	58 57	**External ADC Serial Input** (*Input*) - The CS42528 provides for up to two external stereo analog to digital converter inputs to provide a maximum of six channels on one serial data output line when the CS42528 is placed in One Line mode.
OMCK	59	**External Reference Clock** (*Input*) - External clock reference that must be within the ranges specified in the register "OMCK Frequency (OMCK Freqx)" on page 54.
SAI_LRCK	60	**Serial Audio Interface Left/Right Clock** (*Input*/*Output*) - Determines which channel, Left or Right, is currently active on the serial audio data line.
SAI_SCLK	61	**Serial Audio Interface Serial Clock** *(Input/Output)* - Serial clock for the Serial Audio Interface.

8. Device Pin-Out Diagram

8.1 128-Pin LQFP Pin-Out Diagram

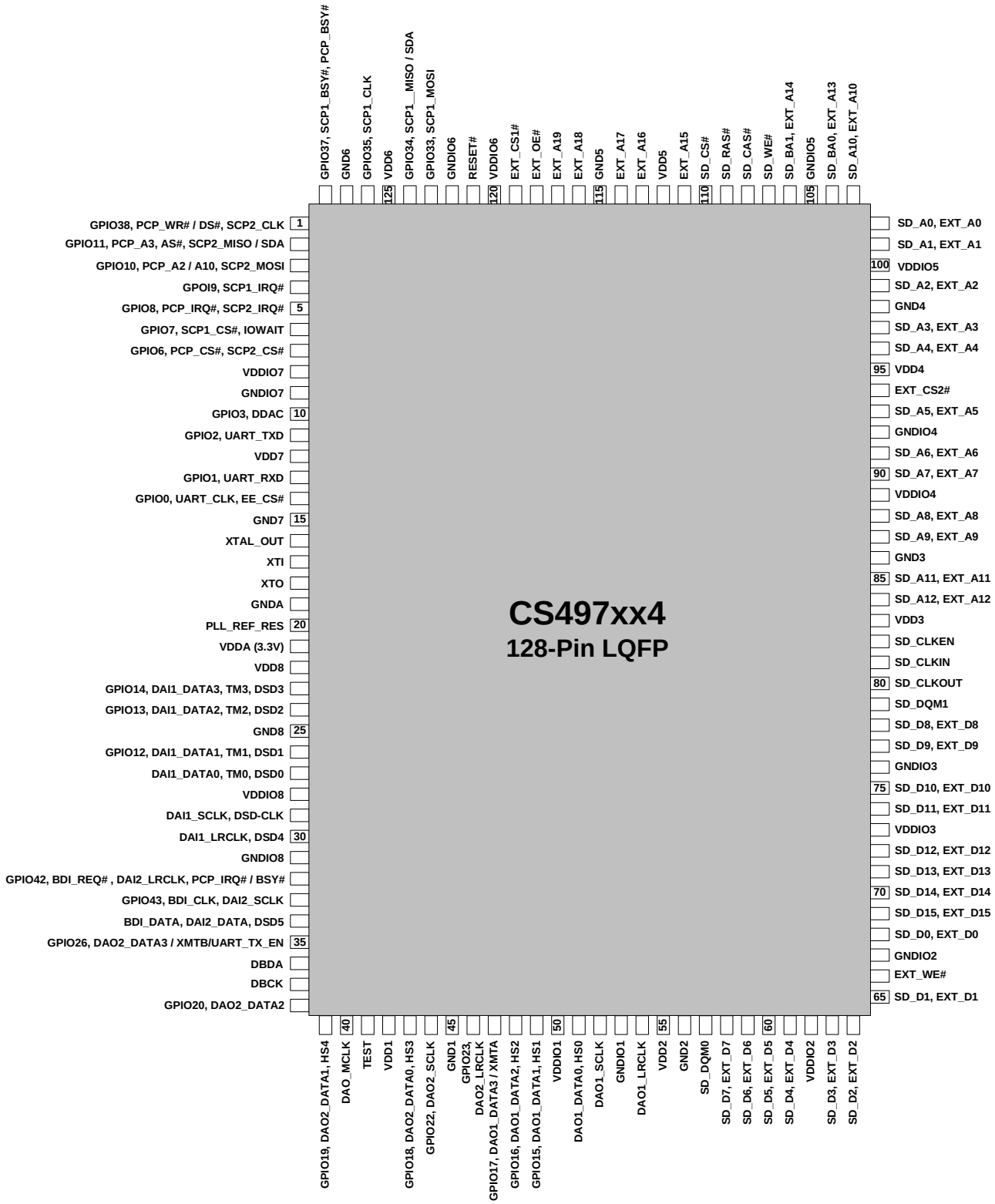


Figure 20. 128-Pin LQFP Pin-Out Diagram

8.2 144-Pin LQFP Pin-Out Diagram

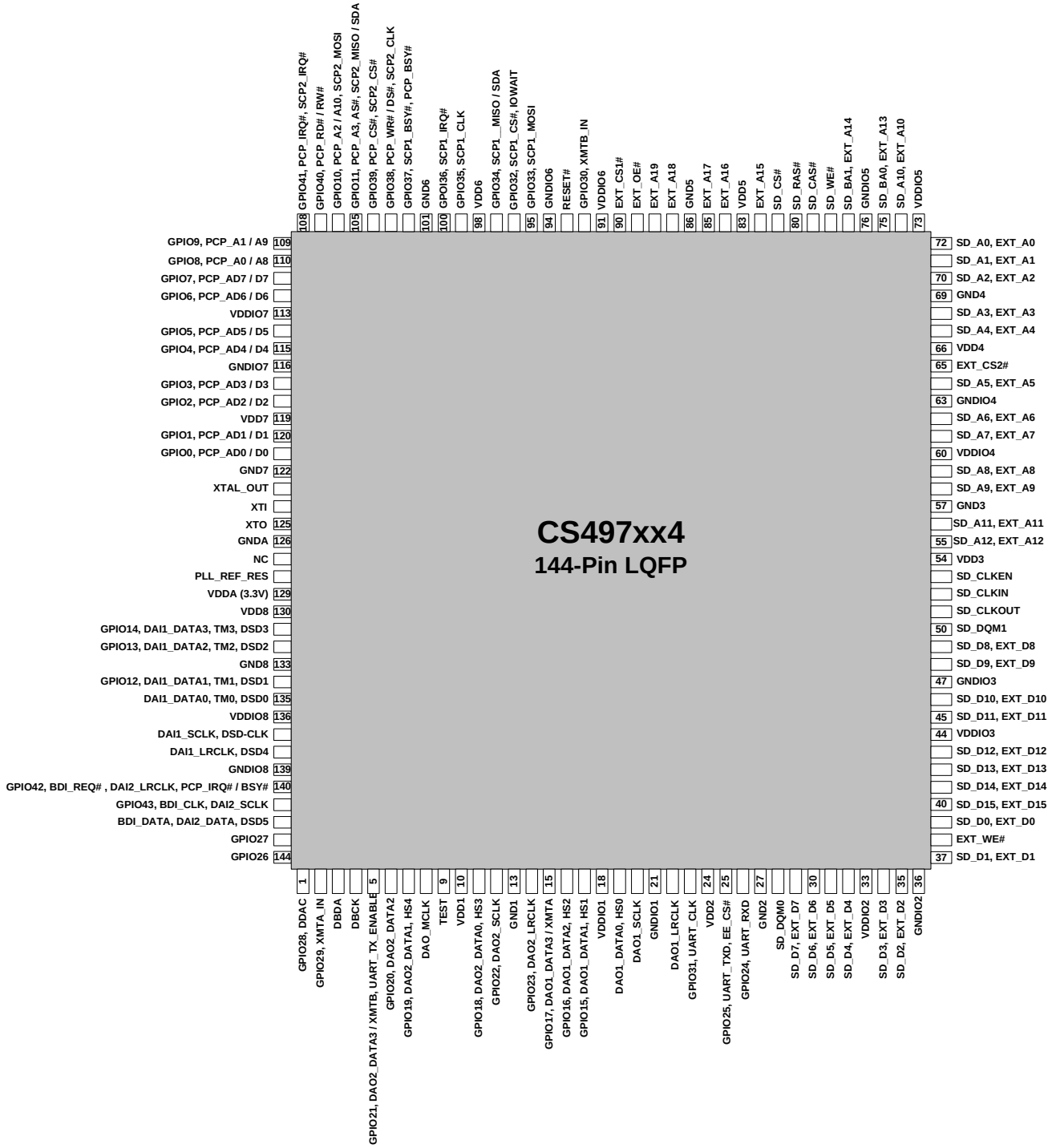
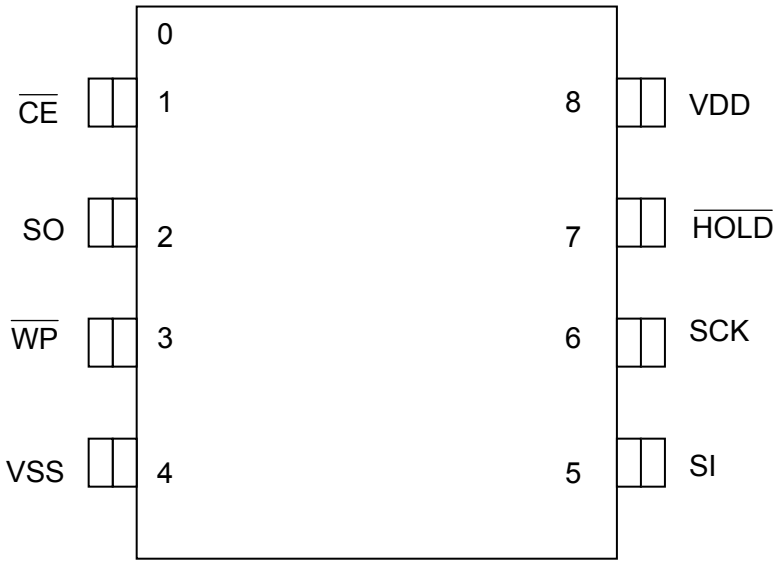


Figure 21. 144-Pin LQFP Pin-Out Diagram

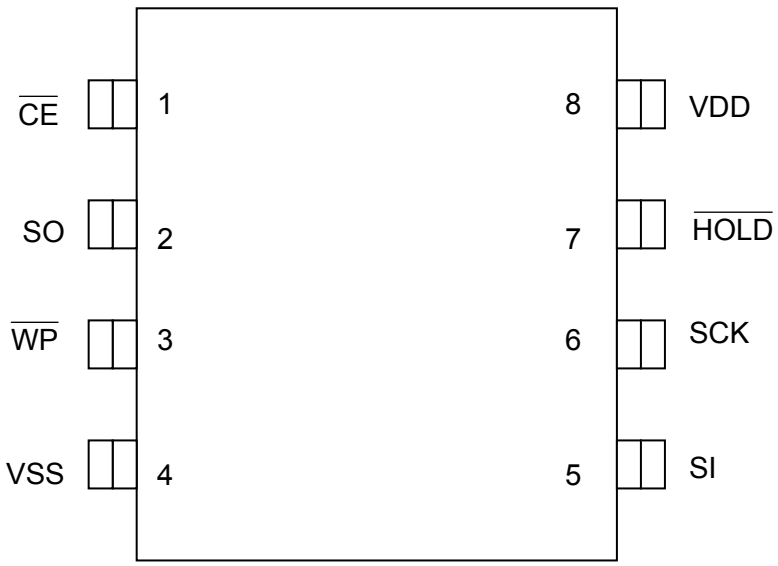
Copyright 2008 Cirrus Logic

PIN CONFIGURATIONS

8-PIN SOIC



8-PIN PDIP

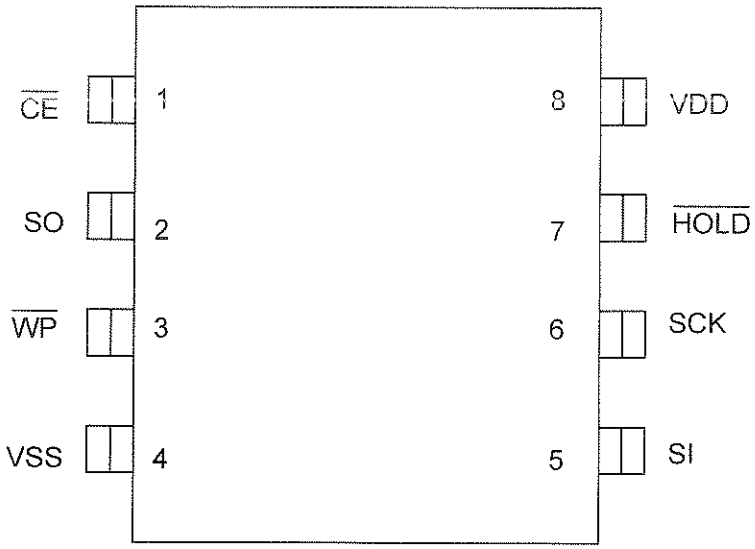


PIN Description

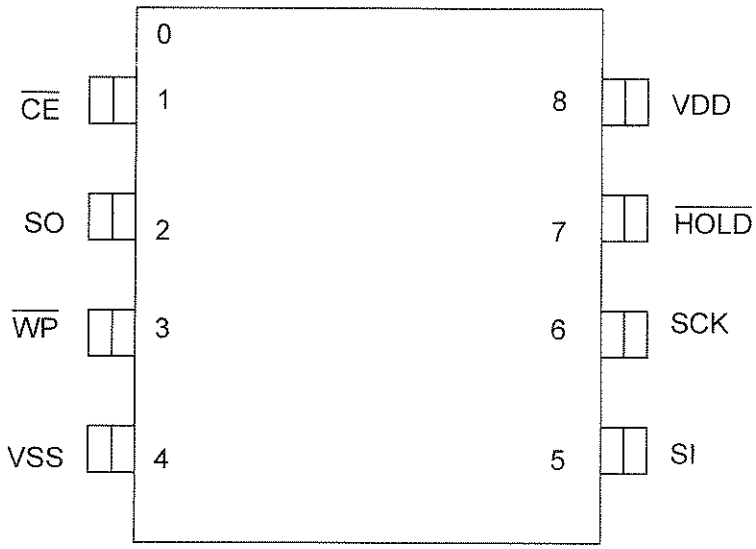
Symbol	Pin Name	Functions
SCK	Serial Clock	To provide the timing for serial input and output operations
SI	Serial Data Input	To transfer commands, addresses or data serially into the device. Data is latched on the rising edge of SCK.
SO	Serial Data Output	To transfer data serially out of the device. Data is shifted out on the falling edge of SCK.
$\overline{CE}$	Chip Enable	To activate the device when $\overline{CE}$ is low.
$\overline{WP}$	Write Protect	The Write Protect ($\overline{WP}$) pin is used to enable/disable BPL bit in the status register.
$\overline{HOLD}$	Hold	To temporality stop serial communication with SPI flash memory without resetting the device.
VDD	Power Supply	To provide power.
VSS	Ground	

PIN CONFIGURATIONS

8-PIN SOIC

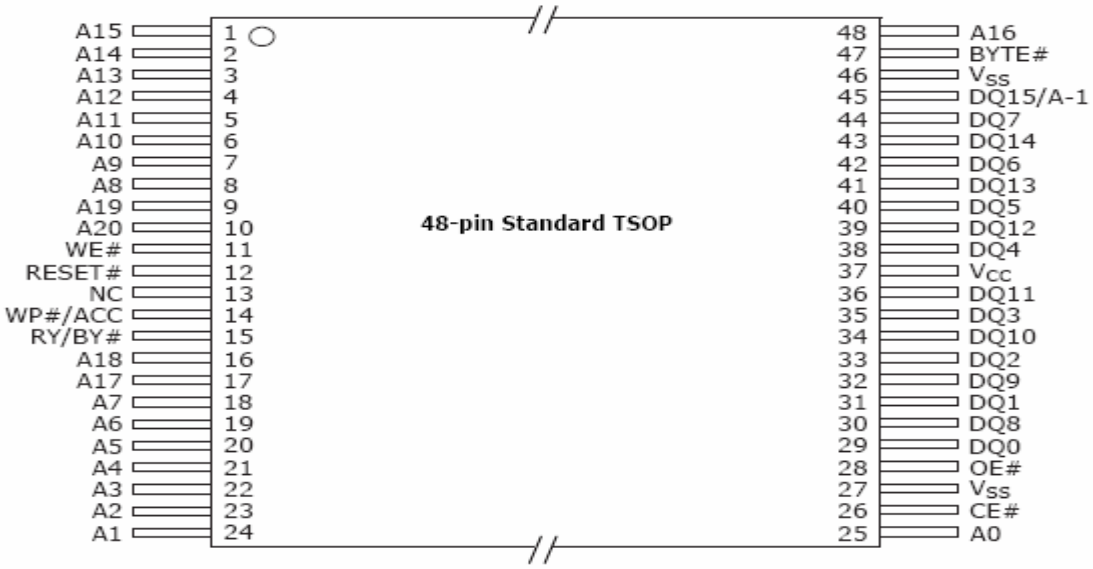


8-PIN PDIP



4. PIN CONFIGURATIONS

4.1 48-pin TSOP



4.2 Pin Description

Symbol	Pin Name	Functions
A0~A20	Address Input	To provide memory addresses.
DQ0~DQ14	Data Input/Output	To output data when Read and receive data when Write. The outputs are in tri-state when $\overline{OE}$ or $\overline{CE}$ is high.
DQ15/A-1	Q15 (Word mode) / LSB addr (Byte Mode)	To bi-direction date I/O when $\overline{BYTE}$ is High To input address when $\overline{BYTE}$ is Low
$\overline{CE}$	Chip Enable	To activate the device when $\overline{CE}$ is low.
$\overline{OE}$	Output Enable	To gate the data output buffers.
$\overline{WE}$	Write Enable	To control the Write operations.
$\overline{RESET}$	Reset	Hardware Reset Pin/Sector Protect Unprotect
$\overline{BYTE}$	Word/Byte selection input	To select word mode or byte mode
RY/$\overline{BY}$	Ready/Busy	To check device operation status
V_{CC}	Power Supply	To provide power
GND	Ground	
NC	No connection	

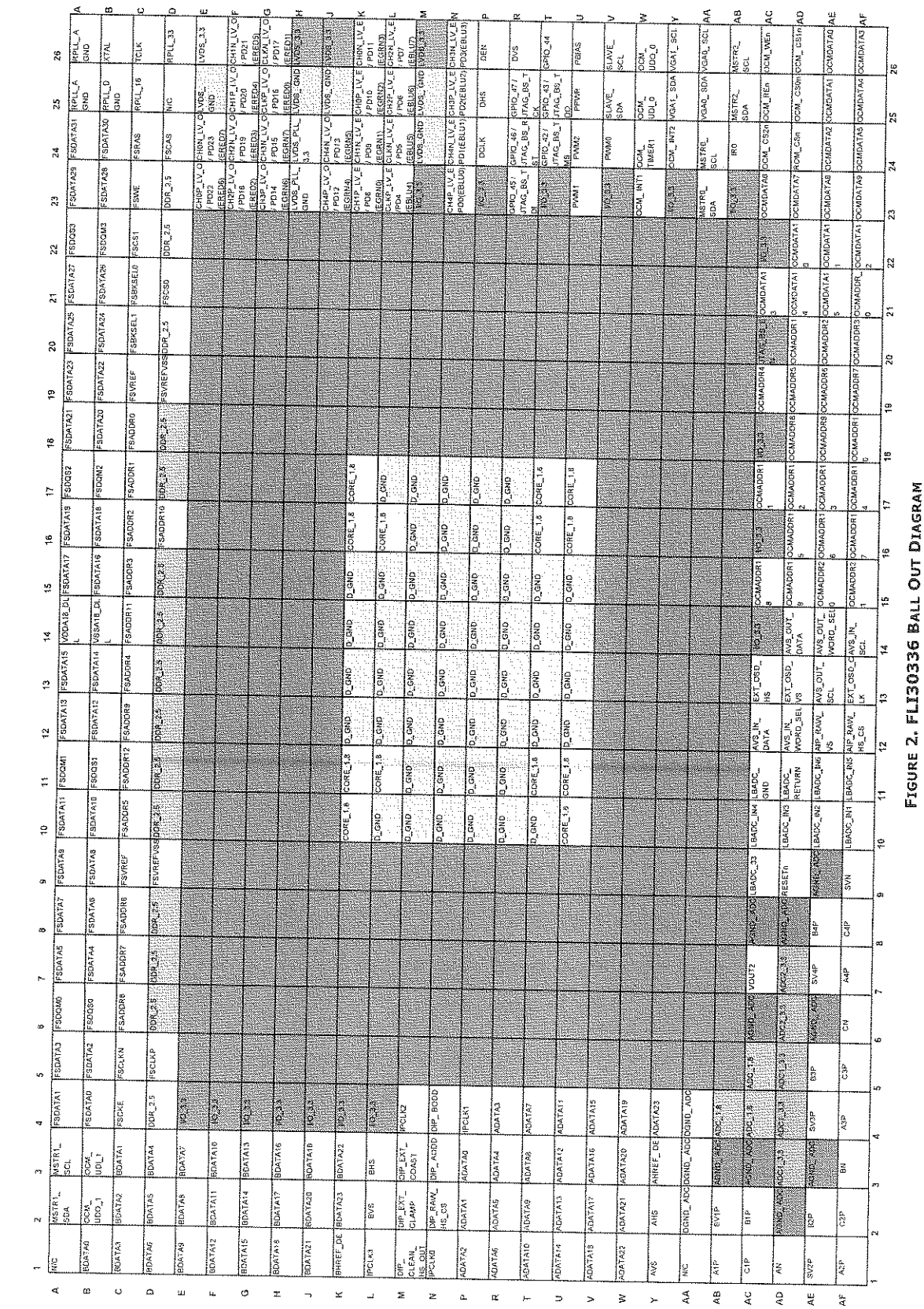


FIGURE 2. FLI30336 BALL OUT DIAGRAM

FAIRCHILD SEMICONDUCTOR®

www.fairchildsemi.com

KA78LXXA/KA78L05AA

3-Terminal 0.1A Positive Voltage Regulator

Features

- Maximum Output Current of 100mA
- Output Voltage of 5V, 6V, 8V, 9V,10V, 12V, 15V, 18V and 24V
- Thermal Overload Protection
- Short Circuit Current Limiting
- Output Voltage Offered in ±5% Tolerance

Description

The KA78LXXA/KA78L05AA series of fixed voltage monolithic integrated circuit voltage regulators are suitable for application that required supply current up to 100mA.

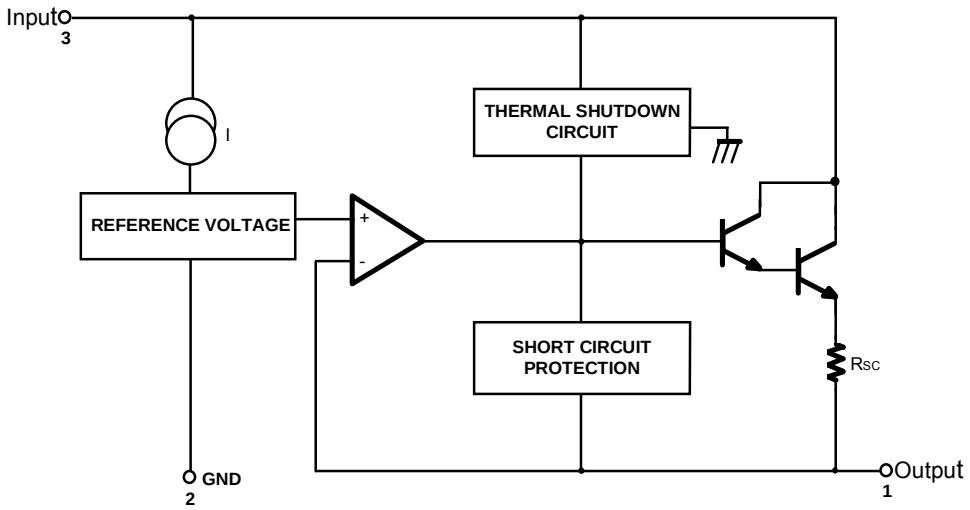
TO-92 **SOT-89**

1. Output 2. GND 3. Input

8-SOP

1. Output 2. GND 3. GND 4. NC
5. NC 6. GND 7. GND 8. Input

Internal Block Diagram



Rev. 1.0.5

©2005 Fairchild Semiconductor Corporation

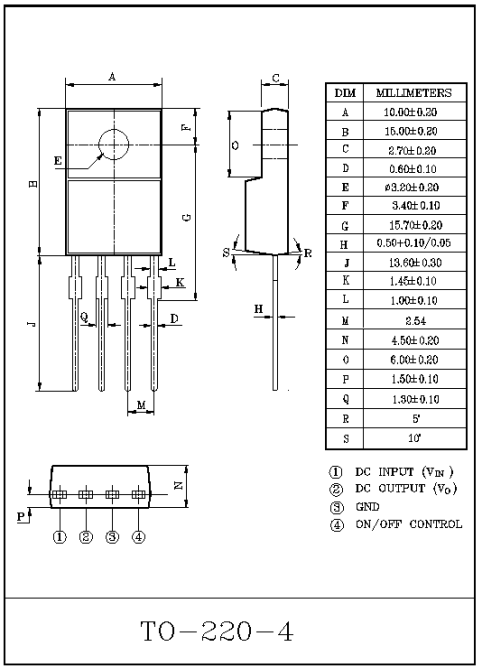
KOREA ELECTRONICS CO.,LTD.

SEMICONDUCTOR
TECHNICAL DATA

KIA78R05PI~ KIA78R15PI
BIPOLAR LINEAR INTEGRATED CIRCUIT

4 TERMINAL LOW DROP VOLTAGE REGULATOR

The KIA78R×× Series are Low Drop Voltage Regulator suitable for various electronic equipments. It provides constant voltage power source with TO-220 4 terminal lead full molded PKG.
The Regulator has multi function such as over current protection, overheat protection and ON/OFF control.



DIM	MILLIMETERS
A	10.00±0.20
B	15.00±0.20
C	2.70±0.20
D	0.60±0.10
E	ø3.20±0.20
F	3.40±0.10
G	15.70±0.20
H	0.50+0.10/0.05
J	13.60±0.30
K	1.45±0.10
L	1.00±0.10
M	2.54
N	4.50±0.20
O	6.00±0.20
P	1.50±0.10
Q	1.30±0.10
R	5°
S	10°

TO-220-4

FEATURES
- 1.0A Output Low Drop Voltage Regulator.
- Built in ON/OFF Control Terminal.
- Built in Over Current Protection, Over Heat Protection Function.

MAXIMUM RATINGS (Ta=25℃)

CHARACTERISTIC	SYMBOL	RATING	UNIT	Remark
Input Voltage	V_{IN}	35	V	-
ON/OFF Control Voltage	V_C	35	V	-
Output Current	I_O	1	A	-
Power Dissipation 1	P_{d1}	1.5	W	No heatsink
Power Dissipation 2	P_{d2}	15	W	with heatsink
Junction Temperature	T_j	125	℃	-
Operating Temperature	T_{opr}	-20~80	℃	-
Storage Temperature	T_{stg}	-30~125	℃	-
Soldering Temperature (10sec)	T_{sol}	260	℃	-

KEC SEMICONDUCTOR TECHNICAL DATA

KIA1117S/F00~ KIA1117S/F50

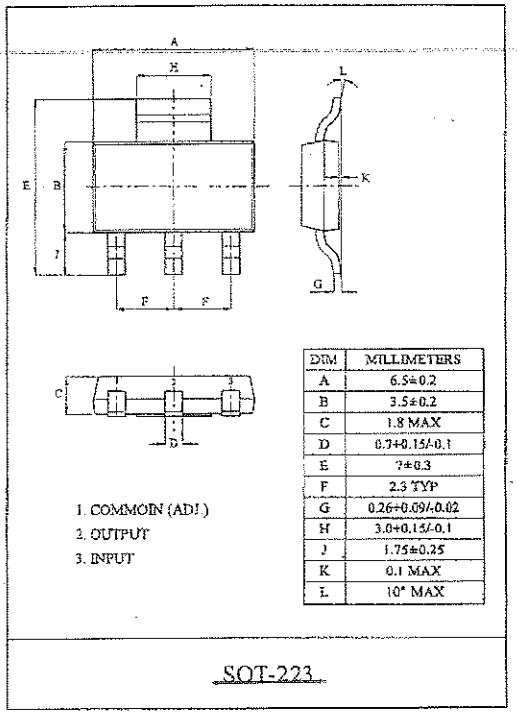
BIPOLAR LINEAR INTEGRATED CIRCUIT

LOW DROP FIXED AND ADJUSTABLE POSITIVE VOLTAGE REGULATOR

The KIA1117S/F × × is a Low Drop Voltage Regulator able to provide up to 1A of output current, available even in adjustable version (Vref=1.25V)

FEATURES

- Low Dropout Voltage : 1.1V/Typ. (Iout=1.0A)
- Very Low Quiescent Current : 4.2㎃/Typ.
- Output Current up to 1A
- Fixed Output Voltage of 1.5V, 1.8V, 2.5V, 2.85V, 3.3V, 5.0V
- Adjustable Version Availability : Vref=1.25V
- Internal Current and Thermal Limit
- Only 10㎌ for stability
- Available in ±2%(at 25 ℃) and 4% in full Temperature range
- High Ripple Rejection : 80dB/Typ
- Temperature Range : 0 ℃ ~ 125 ℃

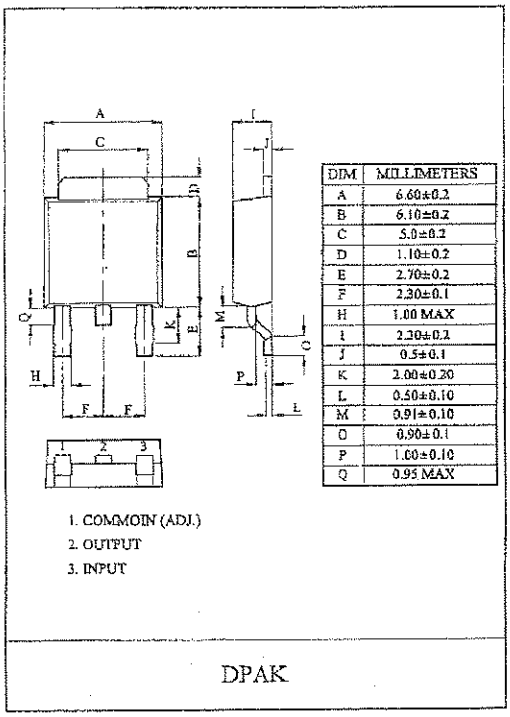


DIM	MILLIMETERS
A	6.5±0.2
B	3.5±0.2
C	1.8 MAX
D	0.7+0.15/-0.1
E	7±0.3
F	2.3 TYP
G	0.26+0.09/-0.02
H	3.0+0.15/-0.1
J	1.75±0.25
K	0.1 MAX
L	10° MAX

SOT-223

LINE UP

ITEM	OUTPUT VOLTAGE (V)	PACKAGE
KIA1117S/F00	Adjustable (1.25~10V)	S : SOT-223 F : DPAK
KIA1117S/F15	1.5	
KIA1117S/F18	1.8	
KIA1117S/F25	2.5	
KIA1117S/F28	2.85	
KIA1117S/F33	3.3	
KIA1117S/F50	5.0	



DIM	MILLIMETERS
A	6.60±0.2
B	6.10±0.2
C	5.0±0.2
D	1.10±0.2
E	2.70±0.2
F	2.30±0.1
H	1.00 MAX
I	2.30±0.2
J	0.5±0.1
K	2.00±0.20
L	0.50±0.10
M	0.91±0.10
O	0.90±0.1
P	1.60±0.10
Q	0.95 MAX

DPAK

MAXIMUM RATINGS (Ta=25 ℃)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Input Voltage		V_{IN}	10	V
Output Current	S/F	I_{OUT}	1.0	A
Power Dissipation 1 (No heatsink)	S (Note)	P_{D1}	1.0	W
	F		1.3	
Power Dissipation 2 (Without heatsink)	S	P_{D2}	8.3	W
	F		13	
Operating Temperature		T_{opr}	0 ~ 125	℃
Storage Temperature		T_{stg}	-55 ~ 150	℃

Note) Package Mounted on FR-4 PCB 36 × 18 × 1.5㎜.
: mounting pad for the GND Lead min. 6㎠

KEC

SEMICONDUCTOR
TECHNICAL DATA

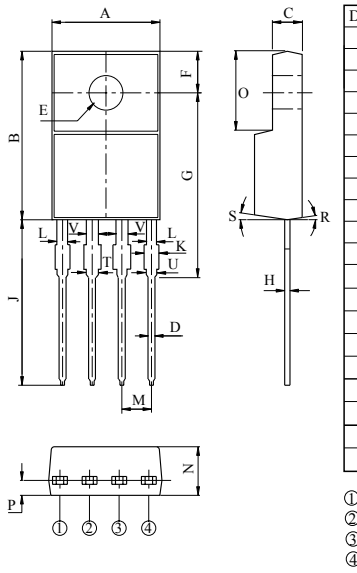
KIA278R05PI~KIA278R15PI
BIPOLAR LINEAR INTEGRATED CIRCUIT

4 TERMINAL 2A OUTPUT LOW DROP
VOLTAGE REGULATOR

The KIA278R×× Series are Low Drop Voltage Regulator suitable for various electronic equipments.
It provides constant voltage power source with TO-220 4 terminal lead full molded PKG. The Regulator has multi function such as over current protection, overheat protection and ON/OFF control.

FEATURES

- 2.0A Output Low Drop Voltage Regulator.
- Built in ON/OFF Control Terminal.
- Built in Over Current Protection, Over Heat Protection Function.



DIM	MILLIMETERS
A	10.00±0.20
B	15.00±0.20
C	2.70±0.20
D	0.60±0.10
E	Φ3.20±0.20
F	3.50±0.10
G	15.70±0.20
H	0.40±0.10
J	14.3+0.2/-0.1
K	1.45±0.10
L	1.00±0.10
M	2.54
N	4.50±0.20
O	7.5± 0.1
P	1.50±0.10
R	5°
S	8°
T	1.30±0.1
U	3-1.00±0.1
V	1.30±0.1

TO-220IS-4

LINE UP

ITEM	OUTPUT VOLTAGE (Typ.)	UNIT
KIA278R05PI	5	V
KIA278R06PI	6	
KIA278R08PI	8	
KIA278R09PI	9	
KIA278R10PI	10	
KIA278R12PI	12	
* KIA278R15PI	15	

* Note) * : Under Development.

MAXIMUM RATING (Ta=25℃)

CHARACTERISTIC	SYMBOL	RATING	UNIT	Remark
Input Voltage	V_{IN}	35	V	-
ON/OFF Control Voltage	V_C	35	V	-
Output Current	I_O	2	A	-
Power Dissipation 1	P_{d1}	1.5	W	No heatsink
Power Dissipation 2	P_{d2}	15	W	with heatsink
Junction Temperature	T_j	125	℃	-
Operating Temperature	T_{opr}	-20～80	℃	-
Storage Temperature	T_{stg}	-30～125	℃	-
Soldering Temperature (10sec)	T_{sol}	260	℃	-

KEC SEMICONDUCTOR TECHNICAL DATA

KIA1117S/F00~ KIA1117S/F50

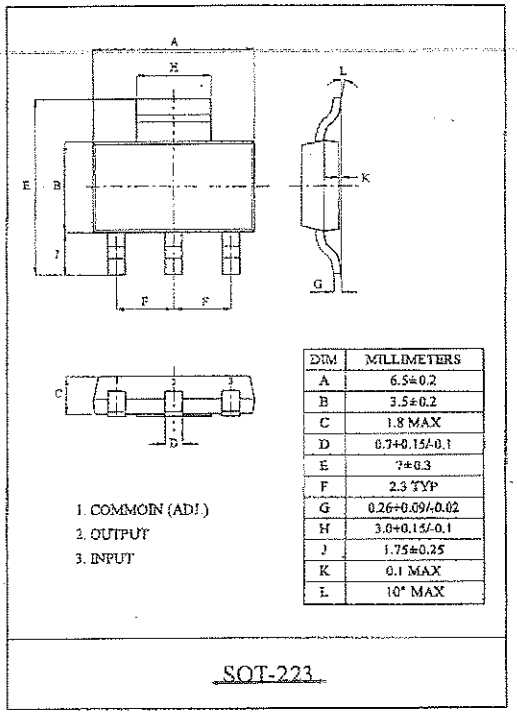
BIPOLAR LINEAR INTEGRATED CIRCUIT

LOW DROP FIXED AND ADJUSTABLE POSITIVE VOLTAGE REGULATOR

The KIA1117S/F × × is a Low Drop Voltage Regulator able to provide up to 1A of output current, available even in adjustable version (Vref=1.25V)

FEATURES

- Low Dropout Voltage : 1.1V/Typ. (Iout=1.0A)
- Very Low Quiescent Current : 4.2㎃/Typ.
- Output Current up to 1A
- Fixed Output Voltage of 1.5V, 1.8V, 2.5V, 2.85V, 3.3V, 5.0V
- Adjustable Version Availability : Vref=1.25V
- Internal Current and Thermal Limit
- Only 10㎌ for stability
- Available in ±2%(at 25 ℃) and 4% in full Temperature range
- High Ripple Rejection : 80dB/Typ
- Temperature Range : 0 ℃ ~ 125 ℃

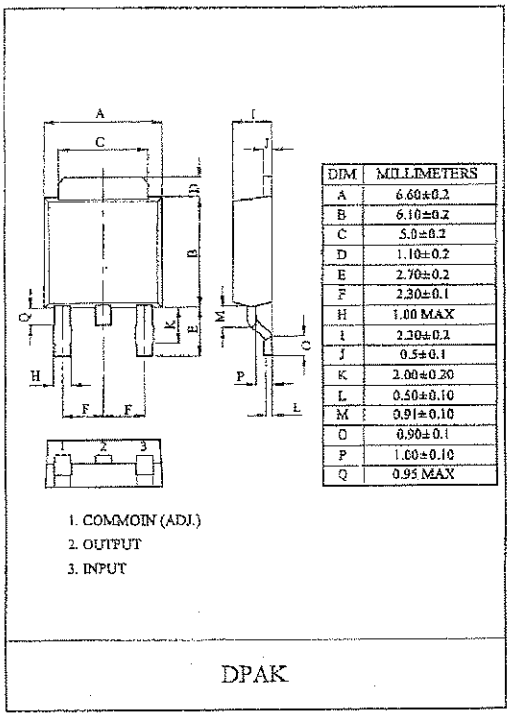


DIM	MILLIMETERS
A	6.5±0.2
B	3.5±0.2
C	1.8 MAX
D	0.7+0.15/-0.1
E	7±0.3
F	2.3 TYP
G	0.26+0.09/-0.02
H	3.0+0.15/-0.1
J	1.75±0.25
K	0.1 MAX
L	10° MAX

SOT-223

LINE UP

ITEM	OUTPUT VOLTAGE (V)	PACKAGE
KIA1117S/F00	Adjustable (1.25~10V)	S : SOT-223 F : DPAK
KIA1117S/F15	1.5	
KIA1117S/F18	1.8	
KIA1117S/F25	2.5	
KIA1117S/F28	2.85	
KIA1117S/F33	3.3	
KIA1117S/F50	5.0	



DIM	MILLIMETERS
A	6.60±0.2
B	6.10±0.2
C	5.0±0.2
D	1.10±0.2
E	2.70±0.2
F	2.30±0.1
H	1.00 MAX
I	2.30±0.2
J	0.5±0.1
K	2.00±0.20
L	0.50±0.10
M	0.91±0.10
O	0.90±0.1
P	1.60±0.10
Q	0.95 MAX

DPAK

MAXIMUM RATINGS (Ta=25 ℃)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Input Voltage		V_{IN}	10	V
Output Current	S/F	I_{OUT}	1.0	A
Power Dissipation 1 (No heatsink)	S (Note)	P_{D1}	1.0	W
	F		1.3	
Power Dissipation 2 (Without heatsink)	S	P_{D2}	8.3	W
	F		13	
Operating Temperature		T_{opr}	0 ~ 125	℃
Storage Temperature		T_{stg}	-55 ~ 150	℃

Note) Package Mounted on FR-4 PCB 36 × 18 × 1.5㎜.
: mounting pad for the GND Lead min. 6㎠

KOREA ELECTRONICS CO.,LTD.

SEMICONDUCTOR
TECHNICAL DATA

KIA7805AP/API~ KIA7824AP/API
BIPOLAR LINEAR INTEGRATED CIRCUIT

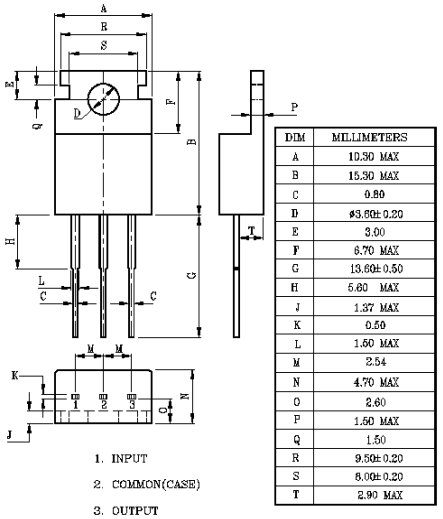
THREE TERMINAL POSITIVE VOLTAGE REGULATORS
5V, 6V, 8V, 9V, 10V, 12V, 15V, 18V, 20V, 24V.

FEATURES

- Suitable for C-MOS, TTL, the Other Digital IC's Power Supply.
- Internal Thermal Overload Protection.
- Internal Short Circuit Current Limiting.
- Output Current in Excess of 1A.
- Satisfies IEC-65 Specification. (International Electronical Commission).

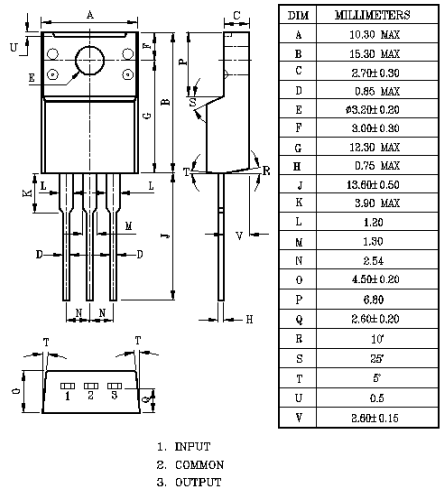
MAXIMUM RATINGS (Ta=25℃)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Input Voltage	KIA7805AP/API~ KIA7815AP/API	V_{IN}	35	V
	KIA7818AP/API~ KIA7824AP/API		40	
Power Dissipation (Tc=25℃)		P_D	20.8	W
Power Dissipation (Without Heatsink)	KIA7805API~ KIA7824API	P_D	2.0	W
Operating Junction Temperature		T_j	-30~150	℃
Storage Temperature		T_{stg}	-55~150	℃



DIM	MILLIMETERS
A	10.30 MAX
B	15.30 MAX
C	9.80
D	ø3.60±0.20
E	3.00
F	6.70 MAX
G	13.60±0.50
H	5.60 MAX
J	1.37 MAX
K	0.50
L	1.50 MAX
M	2.54
N	4.70 MAX
O	2.60
P	1.50 MAX
Q	1.50
R	9.50±0.20
S	8.00±0.20
T	2.90 MAX

TO-220AB



DIM	MILLIMETERS
A	10.30 MAX
B	15.30 MAX
C	2.70±0.30
D	0.85 MAX
E	ø3.20±0.20
F	3.00±0.30
G	12.30 MAX
H	0.75 MAX
J	13.60±0.50
K	3.90 MAX
L	1.20
M	1.30
N	2.54
O	4.50±0.20
P	6.80
Q	2.60±0.20
R	10°
S	25°
T	5°
U	0.5
V	2.60±0.15

TO-220IS

KOREA ELECTRONICS CO.,LTD.

SEMICONDUCTOR
TECHNICAL DATA

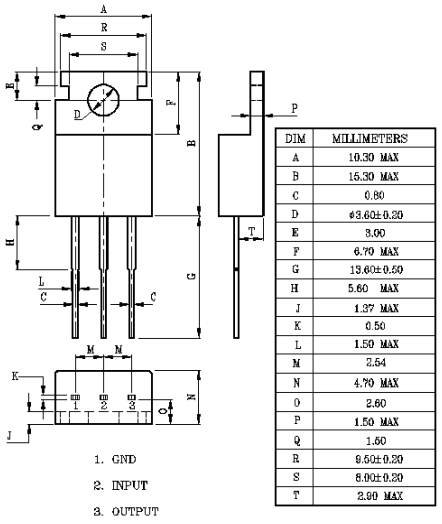
KIA7905P/PI~ KIA7924P/PI
BIPOLAR LINEAR INTEGRATED CIRCUIT

1A THREE TERMINAL NEGATIVE VOLTAGE REGULATORS
-5V, -6V, -8V, -9V, -10V, -12V, -15V, -18V, -20V, -24V

FEATURES:
- Suitable for C-MOS, TTL, and the other digital IC power supply.
- Internal thermal overload protecting.
- Internal short circuit current limiting.
- Output current in excess of 1.0A.

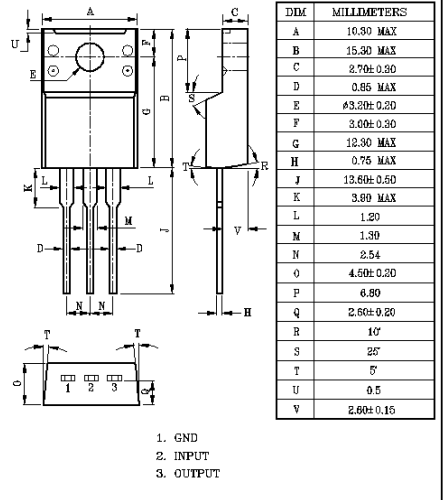
MAXIMUM RATINGS (Ta=25℃)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Input Voltage	KIA7905P/PI~ KIA7915P/PI	V_{IN}	-35	V
	KIA7918P/PI~ KIA7924P/PI		-40	
Power Dissipation (Tc=25℃)		P_D	20.8	W
Operating Junction Temperature		T_j	-30~150	℃
Operating Temperature		T_{opr}	-30~75	℃
Storage Temperature		T_{stg}	-55~150	℃



DIM	MILLIMETERS
A	10.30 MAX
B	15.30 MAX
C	0.80
D	φ3.60±0.20
E	3.00
F	6.70 MAX
G	13.60±0.50
H	5.60 MAX
J	1.37 MAX
K	0.50
L	1.50 MAX
M	2.54
N	4.70 MAX
O	2.60
P	1.50 MAX
Q	1.60
R	9.50±0.20
S	8.90±0.20
T	2.80 MAX

TO-220AB



DIM	MILLIMETERS
A	10.30 MAX
B	15.30 MAX
C	2.70±0.30
D	0.65 MAX
E	φ3.20±0.20
F	3.00±0.30
G	12.30 MAX
H	0.75 MAX
J	13.60±0.50
K	3.80 MAX
L	1.20
M	1.30
N	2.54
O	4.50±0.20
P	6.80
Q	2.50±0.20
R	10°
S	25°
T	5°
U	0.5
V	2.60±0.15

TO-220IS

KEC

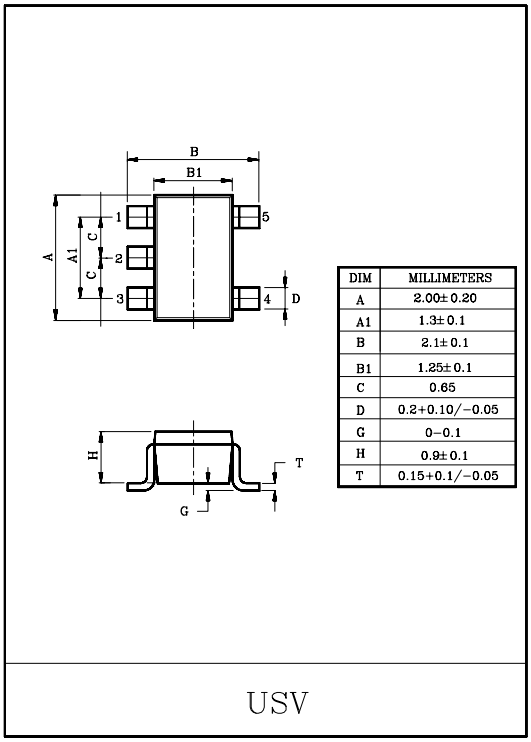
SEMICONDUCTOR
TECHNICAL DATA

KIC7SZ08FU
SILICON MONOLITHIC CMOS
DIGITAL INTEGRATED CIRCUIT

2 INPUT AND GATE

FEATURES

- High Output Drive : ±24mA (Typ.)
  @V_{CC}=3V
- Super High Speed Operation : t_{PD}=2.7ns(Typ.)
  @V_{CC}=5V, 50pF
- Operation Voltage Range : $V_{CC(opr)}$=1.8~5.5V.
- Supply Voltage Data Retention : V_{CC}=1.5~5.5V.
- 5V Tolerant Function



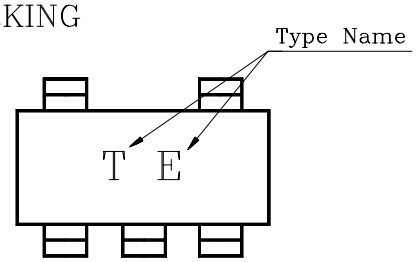
DIM	MILLIMETERS
A	2.00± 0.20
A1	1.3± 0.1
B	2.1± 0.1
B1	1.25± 0.1
C	0.65
D	0.2+0.10/−0.05
G	0~0.1
H	0.9± 0.1
T	0.15+0.1/−0.05

USV

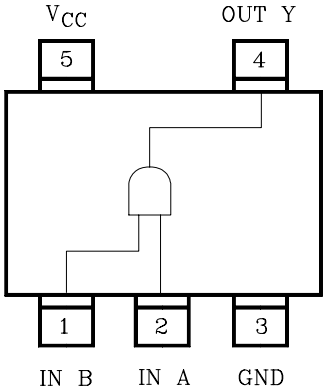
MAXIMUM RATINGS

CHARACTERISTIC	SYMBOL	RATING	UNIT
Supply Voltage Range	V_{CC}	-0.5~6	V
DC Input Voltage	V_{IN}	-0.5~6	V
DC Output Voltage	V_{OUT}	-0.5~6	V
Input Diode Current	I_{IK}	±20	mA
Output Diode Current	I_{OK}	±20	mA
DC Output Current	I_{OUT}	±50	mA
DC V_{CC}/Ground Current	I_{CC}	±50	mA
Power Dissipation	P_D	200	mW
Storage Temperature	T_{stg}	-65~150	℃
Lead Temperature (10s)	T_L	260	℃

MARKING



PIN CONNECTION(TOP VIEW)



cosmo

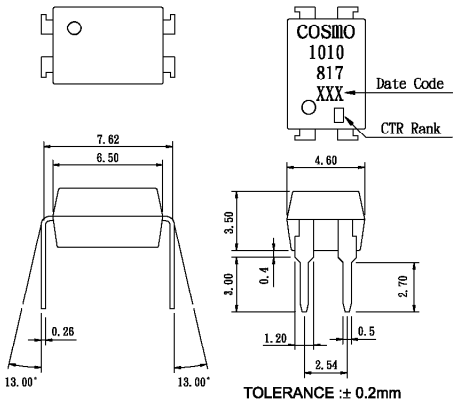
High Reliability Photo Coupler K1010

UL 1577 (File No.E169586) VDE 0884 / 0860 / 0805 (File No.101347)

Features

1. Current transfer ratio (CTR:MIN.50% at IF=5mA Vce=5V)
2. High isolation voltage between input and output (Viso:5000Vrms).
3. Compact dual-in-line package.
4. Available package : DIP/ SMD/ H.

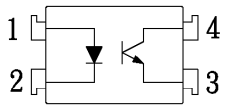
Outside Dimension : Unit (mm)



Applications

1. Registers, copiers, automatic vending machines.
2. System appliances, measuring instruments.
3. Computer terminals, programmable controllers.
4. Communications, telephone, etc.
5. Electric home appliances, such as oil fan heaters, Microwave oven, Washer, Refrigerator, Air conditioner, etc.
6. Medical instruments, physical and chemical equipment.
7. Signal transmission between circuits of different potentials and impedances.
8. Facsimile equipment, Audio, Video.
9. Switching power supply, Laser beam printer.

Schematic : Top View



1. Anode
2. Cathode
3. Emitter
4. Collector

Absolute Maximum Ratings

(Ta=25°C)

	Parameter	Symbol	Rating	Unit
Input	Forward current	IF	50	mA
	Peak forward current	IFM	1	A
	Reverse voltage	VR	6	V
	Power dissipation	PD	70	mW
Output	Collector-emitter voltage	VCEO	60	V
	Emitter-collector voltage	VECO	6	V
	Collector current	IC	50	mA
	Collector power dissipation	PC	150	mW
	Total power dissipation	Ptot	200	mW
	Isolation voltage 1 minute	Viso	5000	Vrms
	Operating temperature	Topr	-30 to +100	°C
	Storage temperature	Tstg	-55 to +125	°C
	Soldering temperature 10 second	Tsol	260	°C

Electro-optical Characteristics

(Ta=25°C)

	Parameter	Symbol	Conditions	MIN.	TYP.	MAX.	Unit
Input	Forward voltage	VF	IF =20mA	—	1.2	1.4	V
	Peak forward voltage	VFM	IFM =0.5A	—	—	3.0	V
	Reverse current	IR	VR =4V	—	—	10	uA
	Terminal capacitance	Ct	V=0, f=1kHz	—	30	—	pF
Output	Collector dark current	ICEO	VCE =20V	—	—	0.1	uA
Transfer charac-teristics	Current transfer ratio	CTR	IF=5mA, VCE =5V	50	—	600	%
	Collector-emitter saturation voltage	VCE(sat)	IF=20mA, IC=1mA	—	0.1	0.2	V
	Isolation resistance	Riso	DC500V	$5X10^{10}$	10^{11}	—	ohm
	Floating capacitance	Cf	V=0, f=1MHz	—	0.6	1.0	pF
	Cut-off frequency	fc	VCC=5V, IC=2mA, RL=100ohm	—	80	—	kHz
	Response time(Rise)	tr	VCE=2V, IC=2mA, RL=100ohm	—	4	18	us
	Response time(Fall)	tf		—	3	18	us

A025 © 2005-2006 cosmo ELECTRONICS CORPORATION
http://www.cosmo-ic.com

ESMT M12L16161A

SDRAM 512K x 16Bit x 2Banks Synchronous DRAM

FEATURES

- JEDEC standard 3.3V power supply
- LVTTL compatible with multiplexed address
- Dual banks operation
- MRS cycle with address key programs
  - CAS Latency (2 & 3)
  - Burst Length (1, 2, 4, 8 & full page)
  - Burst Type (Sequential & Interleave)
- All inputs are sampled at the positive going edge of the system clock
- Burst Read Single-bit Write operation
- DQM for masking
- Auto & self refresh
- 32ms refresh period (2K cycle)

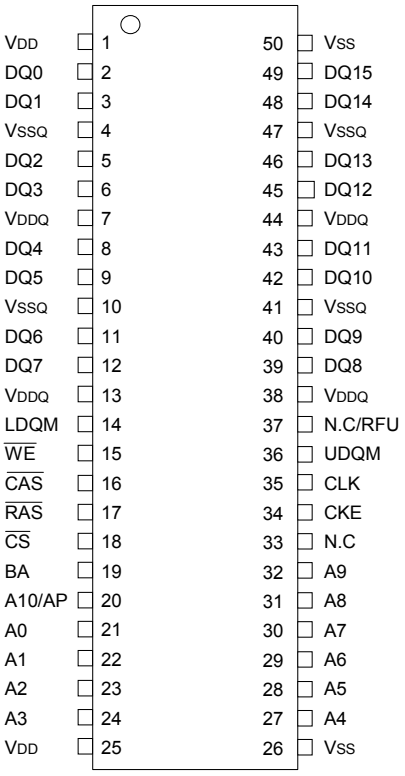
GENERAL DESCRIPTION

The M12L16161A is 16,777,216 bits synchronous high data rate Dynamic RAM organized as 2 x 524,288 words by 16 bits, fabricated with high performance CMOS technology. Synchronous design allows precise cycle control with the use of system clock I/O transactions are possible on every clock cycle. Range of operating frequencies, programmable burst length and programmable latencies allow the same device to be useful for a variety of high bandwidth, high performance memory system applications.

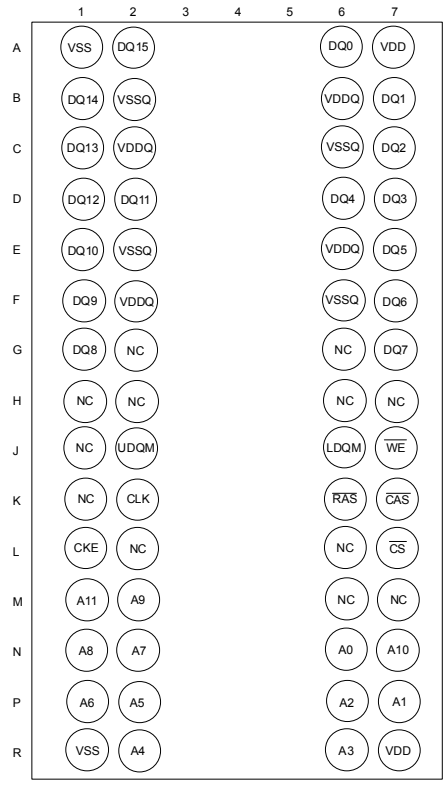
ORDERING INFORMATION

Part NO.	MAX Freq.	PACKAGE	COMMENTS
M12L16161A-5TG	200MHz	TSOP(II)	Pb-free
M12L16161A-7TG	143MHz	TSOP(II)	Pb-free
M12L16161A-7BG	143MHz	VFBGA	Pb-free

PIN CONFIGURATION (TOP VIEW)



50PIN TSOP(II)
(400mil x 825mil)
(0.8 mm PIN PITCH)

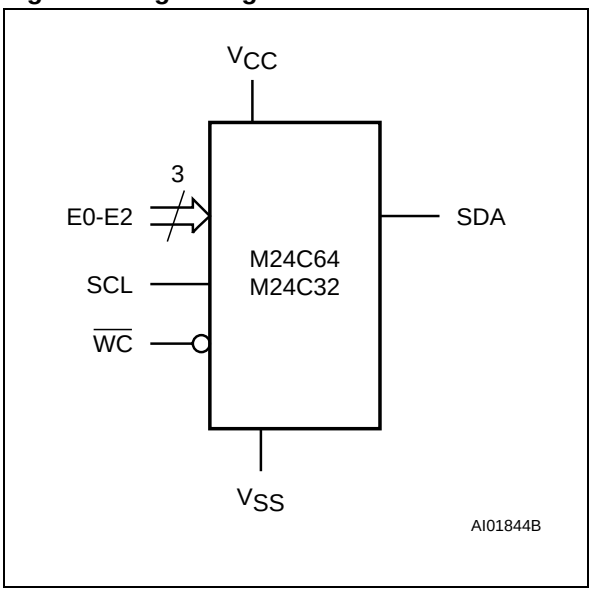


60 Ball VFBGA
(6.4x10.1mm)
(0.65mm ball pitch)

SUMMARY DESCRIPTION

These I^2C-compatible electrically erasable programmable memory (EEPROM) devices are organized as 8192 x 8 bits (M24C64) and 4096 x 8 bits (M24C32).

Figure 2. Logic Diagram



I^2C uses a two-wire serial interface, comprising a bi-directional data line and a clock line. The devices carry a built-in 4-bit Device Type Identifier code (1010) in accordance with the I^2C bus definition.

The device behaves as a slave in the I^2C protocol, with all memory operations synchronized by the serial clock. Read and Write operations are initiated by a Start condition, generated by the bus master. The Start condition is followed by a Device Select Code and Read/Write bit (RW) (as described in Table 3.), terminated by an acknowledge bit.

When writing data to the memory, the device inserts an acknowledge bit during the 9th bit time, following the bus master's 8-bit transmission. When data is read by the bus master, the bus master acknowledges the receipt of the data byte in the same way. Data transfers are terminated by a Stop condition after an Ack for Write, and after a NoAck for Read.

Table 2. Signal Names

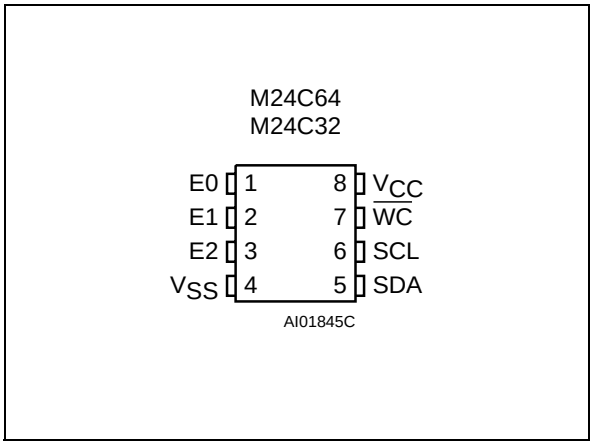
E0, E1, E2	Chip Enable
SDA	Serial Data
SCL	Serial Clock
$\overline{WC}$	Write Control
V_{CC}	Supply Voltage
V_{SS}	Ground

Power On Reset: V_{CC} Lock-Out Write Protect

In order to prevent data corruption and inadvertent Write operations during Power-up, a Power On Reset (POR) circuit is included. At Power-up, the internal reset is held active until V_{CC} has reached the Power On Reset (POR) threshold voltage, and all operations are disabled – the device will not respond to any command. In the same way, when V_{CC} drops from the operating voltage, below the Power On Reset (POR) threshold voltage, all operations are disabled and the device will not respond to any command.

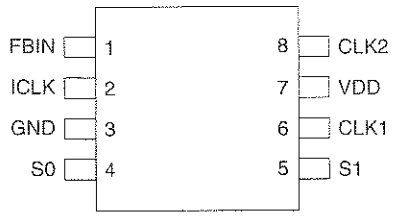
A stable and valid V_{CC} (as defined in Table 9. and Table 10.) must be applied before applying any logic signal.

Figure 3. DIP, SO, TSSOP and UFDFPN Connections



Note: See PACKAGE MECHANICAL section for package dimensions, and how to identify pin-1.

Pin Assignment



8 pin (150 mil) SOIC

Clock Multiplier Decoding Table 1

(Multiplies Input clock by shown amount)

FBIN	S1	S0	CLK1	CLK2
CLK1	0	0	2 X ICLK	ICLK
CLK1	0	1	4 X ICLK	2 X ICLK
CLK1	1	0	ICLK	ICLK/2
CLK1	1	1	8 X ICLK	4 X ICLK
CLK2	0	0	4 X ICLK	2 X ICLK
CLK2	0	1	8 X ICLK	4 X ICLK
CLK2	1	0	2 X ICLK	ICLK
CLK2	1	1	16 X ICLK	8 XICLK

Pin Descriptions

Pin Number	Pin Name	Pin Type	Pin Description
1	FBIN	Input	Feedback clock input.
2	ICLK	Input	Reference clock input.
3	GND	Power	Connect to ground.
4	S0	Input	Select 0 for output clock per decoding table above. Pull-up.
5	S1	Input	Select 1 for output clock per decoding table above. Pull up.
6	CLK1	Output	Clock output per table above.
7	VDD	Power	Connect to +3.3 V or +5.0 V.
8	CLK2	Output	Clock output per table above. Low skew divide by two of pin 6 clock.

JRC

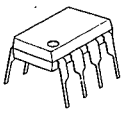
NJM2068

LOW-NOISE DUAL OPERATIONAL AMPLIFIER

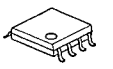
■ GENERAL DESCRIPTION

The NJM2068 is a high performance, low noise dual operational amplifier. This amplifier features popular pin-out, superior noise performance, and superior total harmonic distortion. This amplifier also features guaranteed noise performance with substantially higher gain-bandwidth product and slew rate which far exceeds that of the 4558 type amplifier. The specially designed low noise input transistors allow the NJM2068 to be used in very low noise signal processing applications such as audio preamplifiers and servo error amplifier.

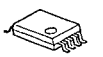
■ PACKAGE OUTLINE



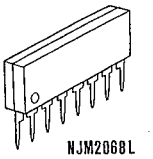
NJM2068D



NJM2068M



NJM2068V



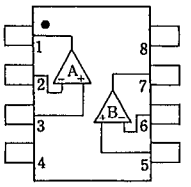
NJM2068L

■ FEATURES

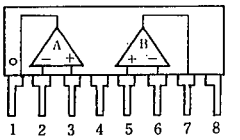
- Operating Voltage (±4V~±18V)
- Low Total Harmonic Distortion (0.001% typ.)
- Low Noise Voltage (FLAT+JISA, 0.56 μV typ.)
- High Slew Rate (6V/μs typ.)
- Unity Gain Bandwidth (27MHz @f=10kHz)
- Package Outline DIP8, DMP8, SIP8, SSOP8
- Bipolar Technology

4

■ PIN CONFIGURATION



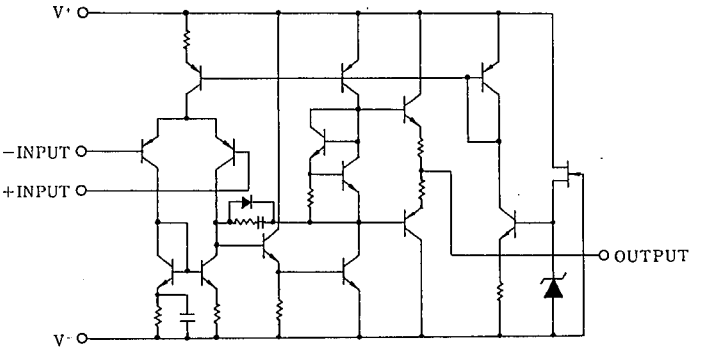
NJM2068D
NJM2068M
NJM2068V



NJM2068L

PIN FUNCITON
1. A OUTPUT
2. A−INPUT
3. A+INPUT
4. V⁻
5. B+INPUT
6. B−INPUT
7. B OUTPUT
8. V⁺

■ EQUIVALENT CIRCUIT (1/2 Shown)



JRC **NJM2391**

LOW DROPOUT VOLTAGE REGULATOR

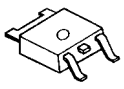
■ GENERAL DESCRIPTION

The NJM2391 is low dropout voltage regulators featuring high precision voltage.

It is suitable for Notebook PCs, PC cards and hard disks where 3.3V need to be generated from 5V supply.

A small TO-252 package is adopted for the space saving.

■ PACKAGE OUTLINE

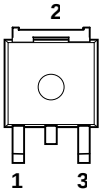


NJM2391DL1

■ FEATURES

- ●Output Current Io(max.)=1A
- ●High Precision Output Voltage Vo±1%
- ●Low Dropout Voltage ΔV_{I-O} =1.1V typ. At Io=1A
- ●Internal Excessive Voltage Protection Circuit
- ●Internal Short Circuit Current Limit
- ●Internal Thermal Overload Protection
- ●Bipolar Technology
- ●Package Outline TO-252

■ PIN CONFIGURATION



PIN FUNCTION
1.V_{IN}
2.GND
3.V_{OUT}

NJM2391DL1

■ ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Input Voltage	V^+	+10	V
Power Dissipation	P_D	TO-252 8 (Tc=25°C) 0.8(Ta≤25°C)	W
Operating Temperature	Topr	–40 ~ +85	°C
Storage Temperature	Tstg	–50 ~ +125	°C

■ OUTPUT VOLTAGE RANK LIST

Device Name	V_{OUT}
NJM2391DL1-25	2.5V
NJM2391DL1-26	2.6V
NJM2391DL1-28	2.85V
NJM2391DL1-03	3.0V
NJM2391DL1-33	3.3V
NJM2391DL1-35	3.5V
NJM2391DL1-05	5.0V

JRC **NJM2581**

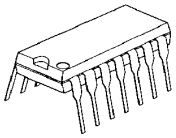
DUAL SUPPLY WIDE BAND 3ch VIDEO AMPLIFIER

■ GENERAL DESCRIPTION

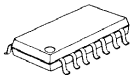
The **NJM2581** is a dual supply voltage wide band 3ch video amplifier. It is suitable for Y, Pb, and Pr signal because frequency range is 50MHz.

The **NJM2581** is suitable for Set Top Box, AV amplifier, and other high quality AV systems.

■ PACKAGE OUTLINE



NJM2581D

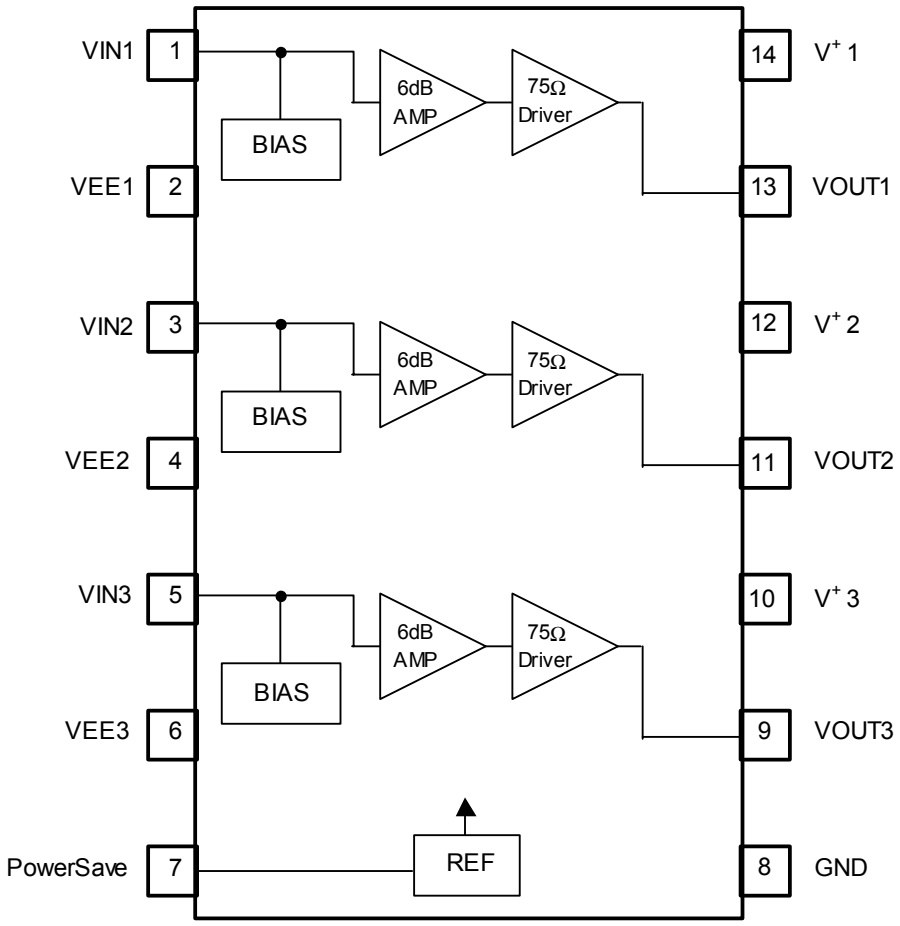


NJM2581M

■ FEATURES

- Operating Voltage ±4.5 to ±5.5V
- Wide frequency range 50MHz at 0dB typ.
- Internal 6dB Amplifier
- Internal 75ΩDriver Circuit (2-system drive)
- Power Save Circuit
- Bipolar Technology
- Package Outline DIP14, DMP14

■ BLOCK DIAGRAM



JRC **NJM2595**

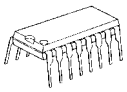
5-INPUT 3-OUTPUT VIDEO SWITCH

■ GENERAL DESCRIPTION

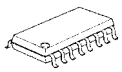
The **NJM2595** is a 5-input 3-output video switch. Its switches select one from five signals received from VTR,TV,DVD, TV-GAME and others.

The NJM2595 is designed for audio items, such as AV amplifier and others.

■ PACKAGE OUTLINE



NJM2595D

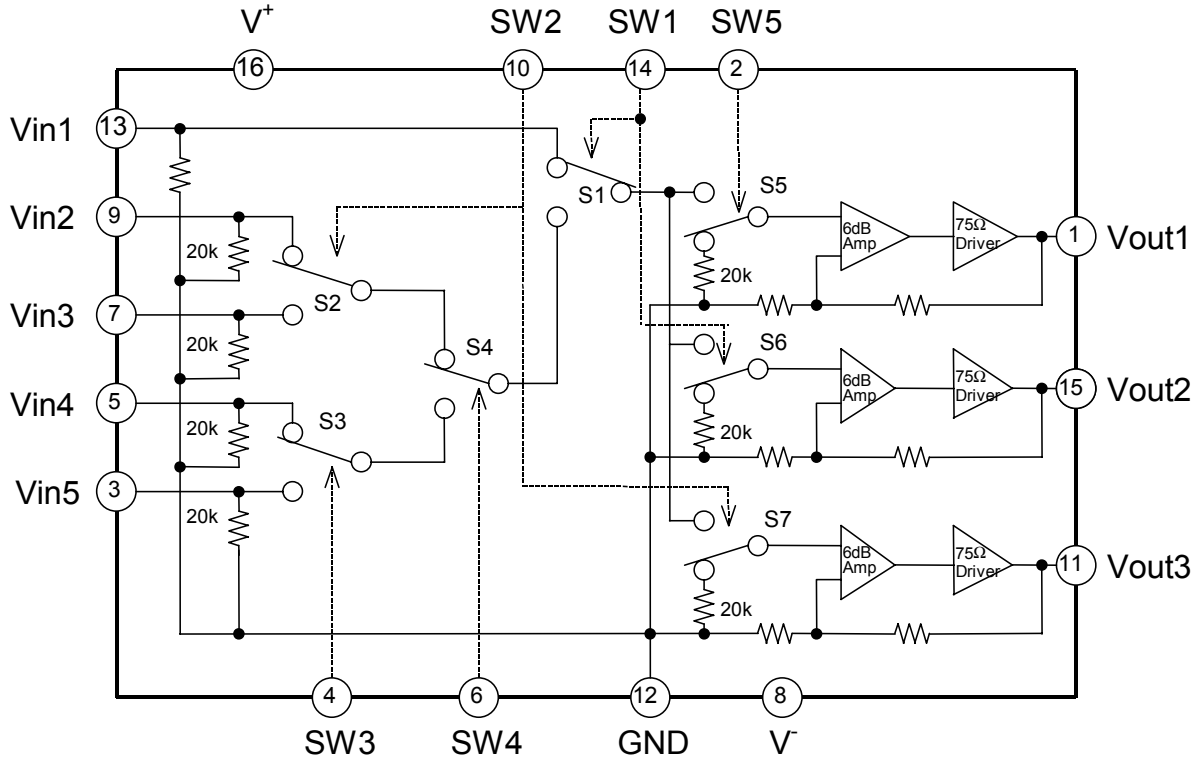


NJM2595M

■ FEATURES

- 5-input 3-output
- Operating Voltage ±4.0 to ±6.5V
- Operating current ±15mAtyp. at Vcc=±5V
- Crosstalk -65dBtyp.
- Internal 6dB Amplifier
- Internal 75Ω Driver
- Bipolar Technology
- Package Outline DIP16,DMP16

■ PIN CONFIGURATION and BLOCK DIAGRAM



JRC **NJM2845/46**

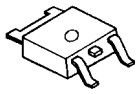
LOW DROPOUT VOLTAGE REGULATOR

■ GENERAL DESCRIPTION

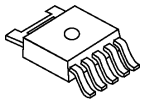
The NJM2845 is low dropout voltage regulator. Advanced Bipolar technology achieves low noise, high ripple rejection and low quiescent current.

NJM2845 is 3 terminal type and NJM2846 is ON/OFF control built in type. These product can be selected according to the applications.

■ PACKAGE OUTLINE



NJM2845DL1

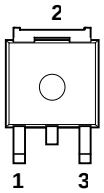


NJM2846DL3

■ FEATURES

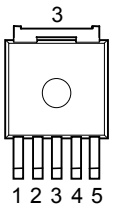
- ● High Ripple Rejection 75dB typ. (f=1kHz,3V Version)
- ● Output Noise Voltage Vno=45μVrms typ. (Vo=3V Version)
- ● Output capacitor with 2.2μF ceramic capacitor (Vo≥2.6V)
- ● Output Current Io(max.)=800mA
- ● High Precision Output Vo ±1.0%
- ● Low Dropout Voltage 0.18V typ. (Io=500mA)
- ● ON/OFF Control (NJM2846)
- ● Internal Short Circuit Current Limit
- ● Internal Thermal Overload Protection
- ● Bipolar Technology
- ● Package Outline TO-252-3 (NJM2845DL1), TO-252-5 (NJM2846DL3)

■ PIN CONFIGURATION



1.V_{IN}
2.GND
3.V_{OUT}

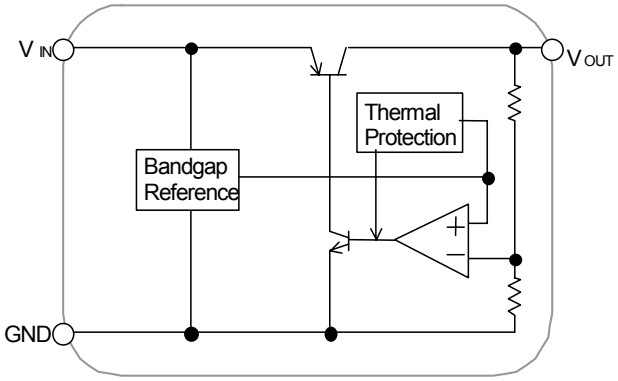
NJM2845DL1



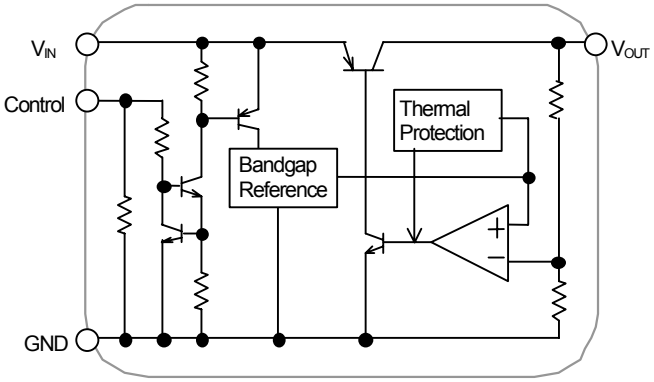
1.CONTROL
2.V_{IN}
3.GND
4.Vo
5.NC

NJM2846DL3

■ EQUIVALENT CIRCUIT



NJM2845DL1



NJM2846DL3

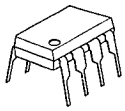
DUAL HIGH CURRENT OPERATIONAL AMPLIFIER

■ GENERAL DESCRIPTION

The NJM4556A integrated circuit is a high-gain, high output current dual operational amplifier capable of driving ±70mA into 150 Ω loads (±10.5V output voltage), and operating low supply voltage (V^+/V^-=±2V~).

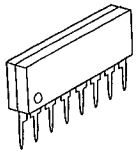
The NJM4556A combines many of the fetures of the popular NJM4558 as well as having the capability of driving 150Ω loads. In addition, the wide band-width, low noise, high slew rate and low distortion of the NJM4556A make it ideal for many audio, telecommunications and instrumentation applications.

■ PACKAGE OUTLINE

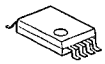


NJM4556AD

NJM4556AM



NJM4556AL

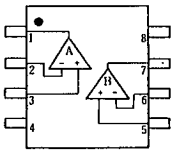


NJM4556AV

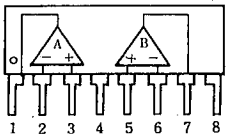
■ FEATURES

- Operating Voltage (±2V~±18V)
- High Output Current (Io=70mA)
- Slew Rate (3V/μs typ.)
- Gain Band Width Product (8MHz typ.)
- Package Outline DIP8, DMP8, SIP8, SSOP8
- Bipolar Technology

■ PIN CONFIGURATION



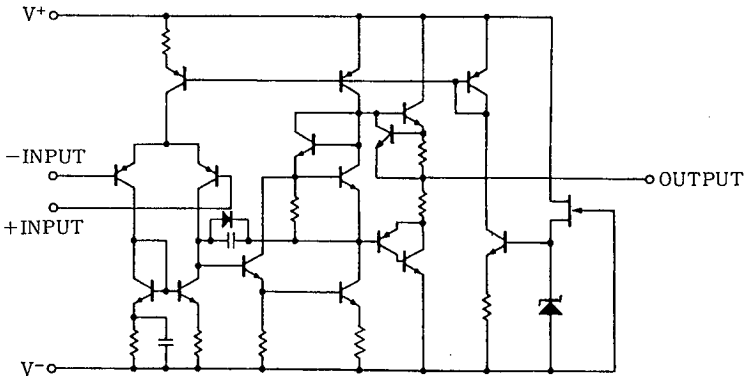
NJM4556AD
NJM4556AM
NJM4556AV



NJM4556AL

PIN FUNCTION
1. A OUTPUT
2. A−INPUT
3. A+INPUT
4. V⁻
5. B+INPUT
6. B−INPUT
7. B OUTPUT
8. V⁺

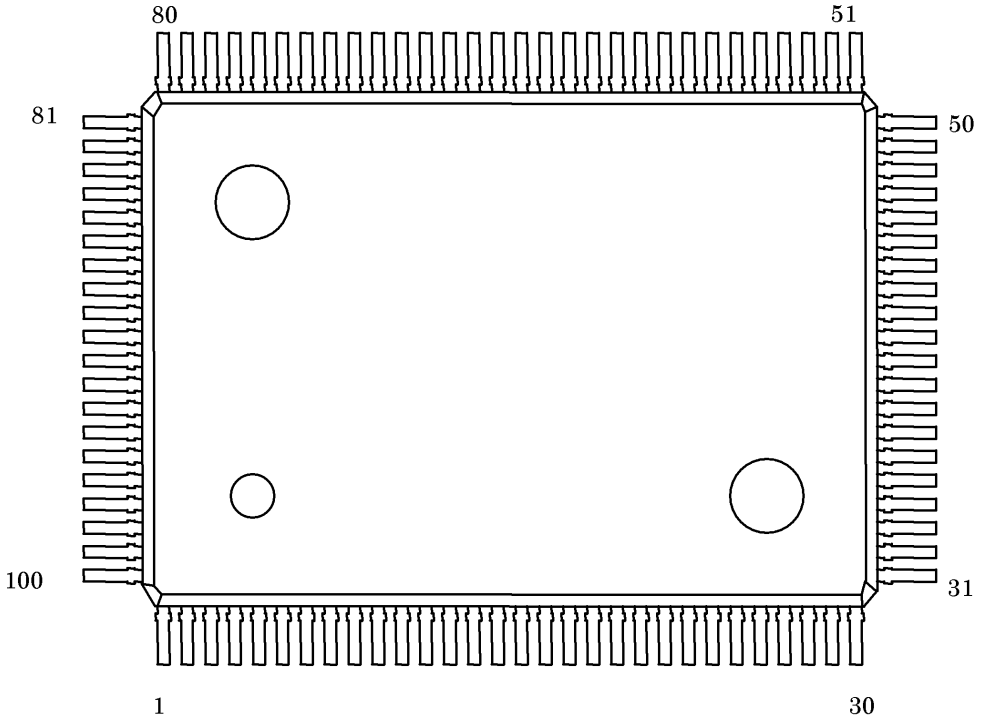
■ EQUIVALENT CIRCUIT (1/2 Shown)



■PIN CONFIGURATION

BEE-55608-000-00

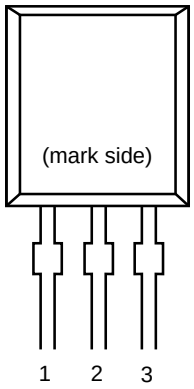
(Top View)



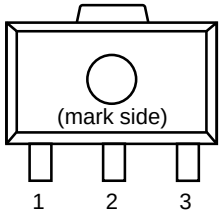
Pin No.	SYMBOL	Pin No.	SYMBOL	Pin No.	SYMBOL	Pin No.	SYMBOL
1	GND	26	R11IN	51	DCR_OUT	76	RSAIN
2	L1IN	27	L12IN/REC_D1L	52	VDDOUT	77	LSAIN
3	GND	28	R12IN/REC_D1R	53	DCCAP_LB	78	CAIN
4	R1IN	29	L13IN/REC_D2L	54	DCCAP_RB	79	RAIN
5	L2IN	30	R13IN/REC_D2R	55	RBCIN	80	LAIN
6	R2IN	31	REC_A1L	56	LBCIN	81	DCCAP_R
7	L3IN	32	REC_A1R	57	DCCAP_LS	82	DCCAP_L
8	R3IN	33	REC_A2L	58	DCCAP_RS	83	MUTE
9	L4IN	34	REC_A2R	59	RSCIN	84	DATA
10	R4IN	35	REC_B1L	60	LSCIN	85	CLOCK
11	L5IN	36	REC_B1R	61	SWBIN	86	LATCH
12	R5IN	37	REC_C1L	62	RBBIN	87	ADR
13	L6IN	38	REC_C1R	63	LBBIN	88	GND
14	R6IN	39	FL+	64	RSBIN	89	GND
15	L7IN	40	FL-	65	GND	90	GND
16	R7IN	41	GND	66	GND	91	V-
17	GND	42	GND	67	LSBIN	92	V+
18	L8IN	43	GND	68	CBIN	93	SWOUT
19	R8IN	44	FR+	69	RBIN	94	RBOUT
20	GND	45	FR-	70	LBIN	95	LBOUT
21	L9IN	46	GND	71	SWAIN	96	RSOUT
22	R9IN	47	DCL_IN	72	DCCAP_SW	97	LSOUT
23	L10IN	48	DCL_OUT	73	DCCAP_C	98	COUT
24	R10IN	49	GND	74	RBAIN	99	ROUT
25	L11IN	50	DCR_IN	75	LBAIN	100	LOUT

PIN CONFIGURATION

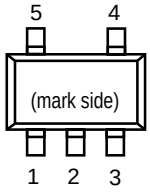
• TO-92



• SOT-89



• SOT-23-5



PIN DESCRIPTION

• TO-92

Pin No.	Symbol
1	OUT
2	V_{DD}
3	GND

• SOT-89

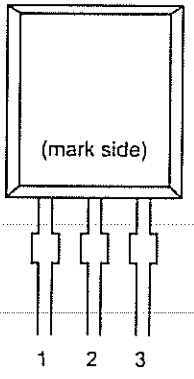
Pin No.	Symbol
1	OUT
2	V_{DD}
3	GND

• SOT-23-5

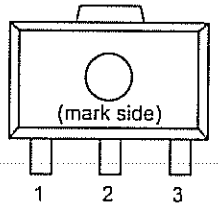
Pin No.	Symbol
1	OUT
2	V_{DD}
3	GND
4	NC
5	NC

PIN CONFIGURATION

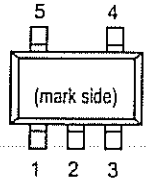
• TO-92



• SOT-89



• SOT-23-5



PIN DESCRIPTION

• TO-92

Pin No.	Symbol
1	OUT
2	VDD
3	GND

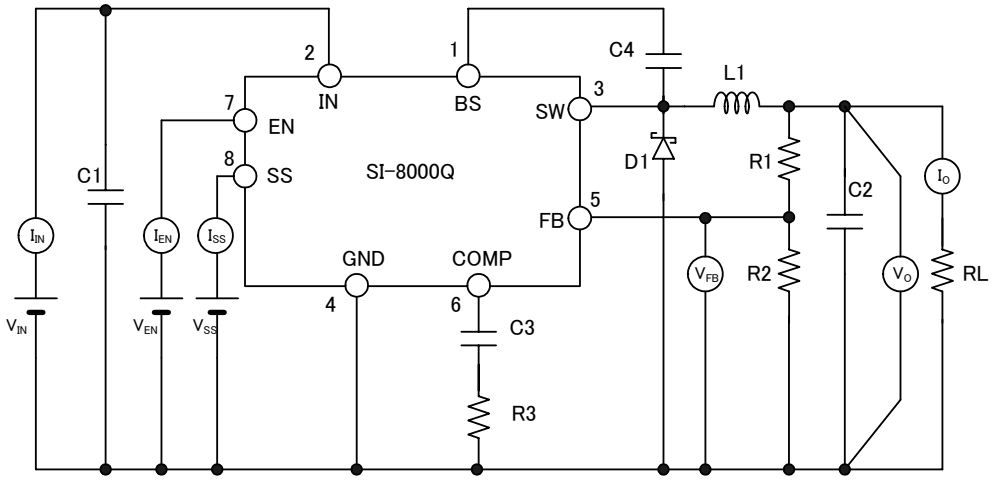
• SOT-89

Pin No.	Symbol
1	OUT
2	VDD
3	GND

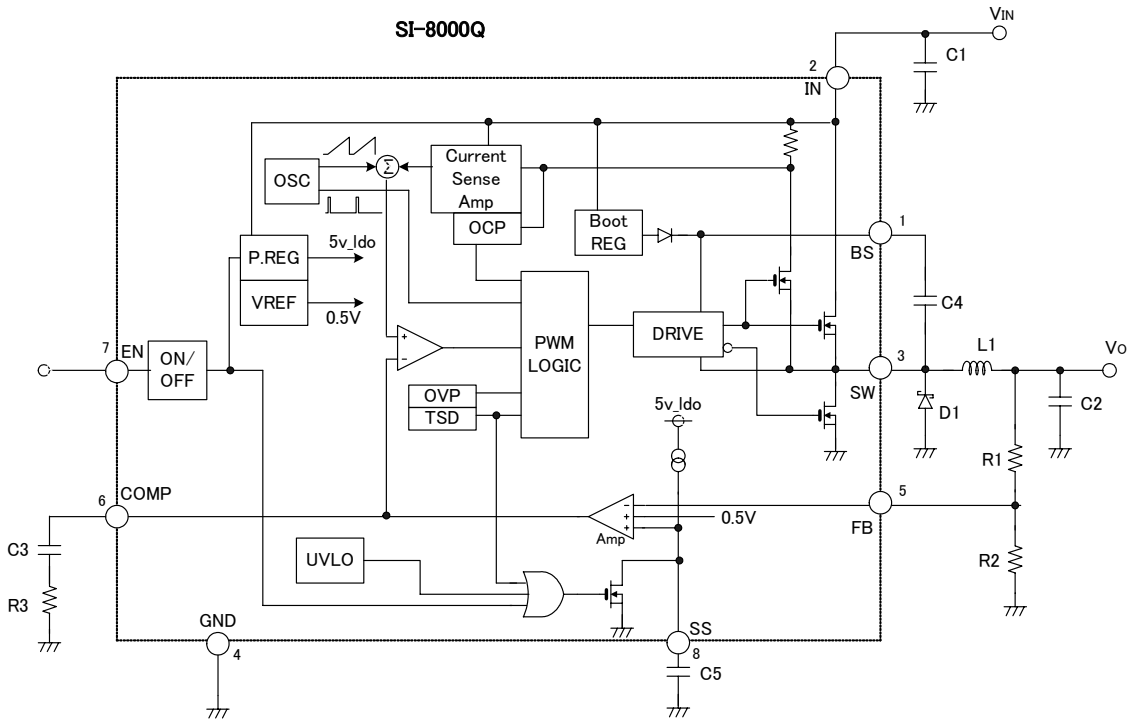
• SOT-23-5

Pin No.	Symbol
1	OUT
2	VDD
3	GND
4	NC
5	NC

4-3測定回路図
Measurement circuit diagram



4-4 ブロックダイアグラム
Block diagram



Pin Diagram

Figure 2 shows the pin connections for the SiI9135 receiver in the 144-pin TQFP package. Packaging and pin assignments are identical for the SiI9135A device.

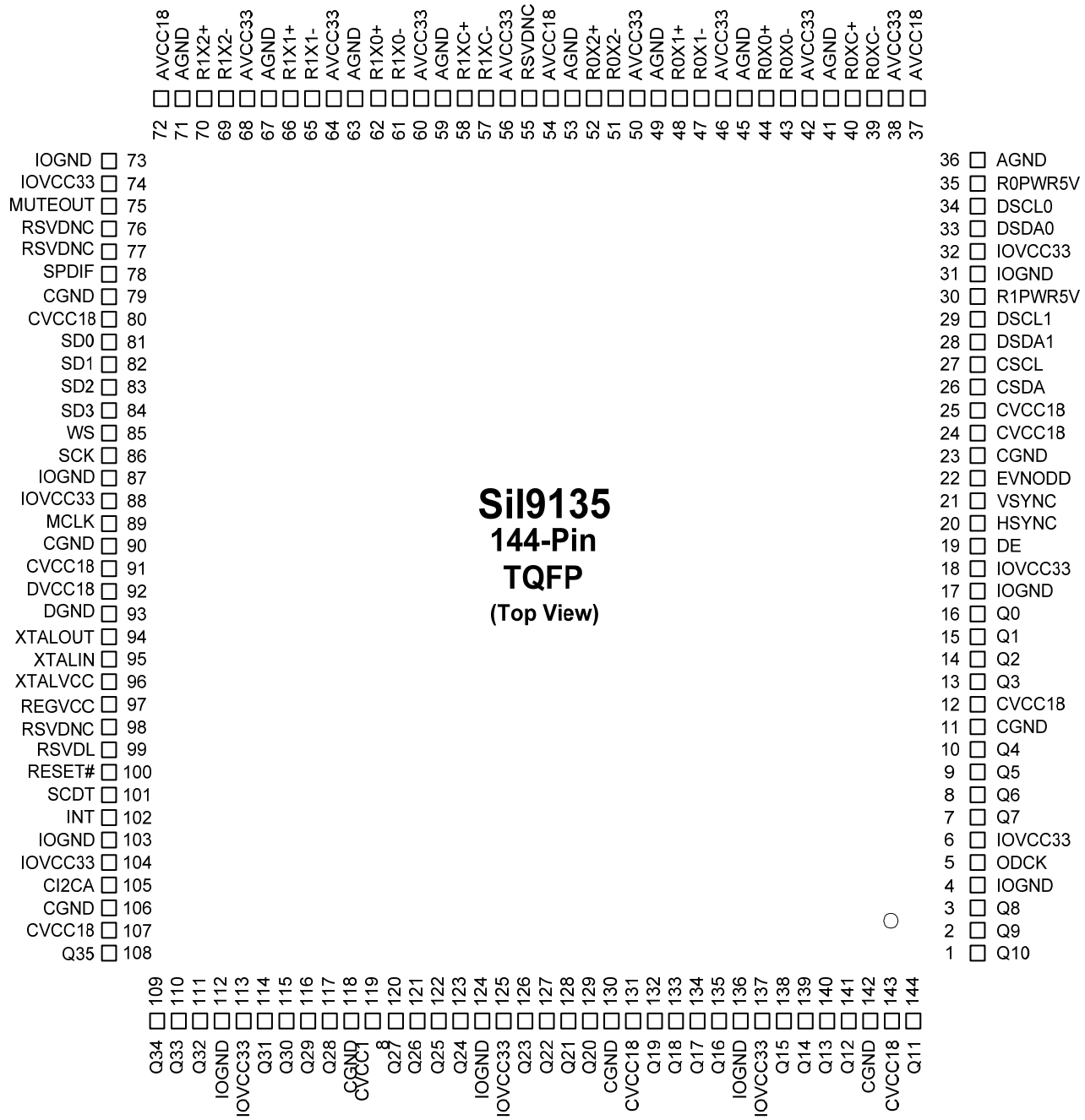


Figure 2. Pin Diagram

Individual pin functions are described beginning on page 32.

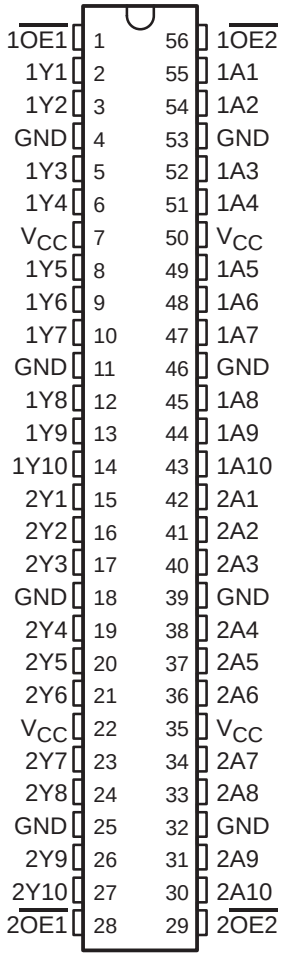
© 2008 Silicon Image, Inc. CONFIDENTIAL

SN74ALVCH16827
20-BIT BUFFER/DRIVER WITH 3-STATE OUTPUTS

SCES041C – JULY 1995 – REVISED FEBRUARY 1999

- **Member of the Texas Instruments *Widebus*™ Family**
- ***EPIC*™ (Enhanced-Performance Implanted CMOS) Submicron Process**
- **ESD Protection Exceeds 2000 V Per MIL-STD-883, Method 3015; Exceeds 200 V Using Machine Model (C = 200 pF, R = 0)**
- **Latch-Up Performance Exceeds 250 mA Per JESD 17**
- **Bus Hold on Data Inputs Eliminates the Need for External Pullup/Pulldown Resistors**
- **Package Options Include Plastic 300-mil Shrink Small-Outline (DL) and Thin Shrink Small-Outline (DGG) Packages**

DGG OR DL PACKAGE
(TOP VIEW)



description

This 20-bit noninverting buffer/driver is designed for 1.65-V to 3.6-V V_{CC} operation.

The SN74ALVCH16827 is composed of two 10-bit sections with separate output-enable signals. For either 10-bit buffer section, the two output-enable ($1\overline{OE1}$ and $1\overline{OE2}$ or $2\overline{OE1}$ and $2\overline{OE2}$) inputs must both be low for the corresponding Y outputs to be active. If either output-enable input is high, the outputs of that 10-bit buffer section are in the high-impedance state.

To ensure the high-impedance state during power up or power down, $\overline{OE}$ should be tied to V_{CC} through a pullup resistor; the minimum value of the resistor is determined by the current-sinking capability of the driver.

Active bus-hold circuitry is provided to hold unused or floating data inputs at a valid logic level.

The SN74ALVCH16827 is characterized for operation from –40°C to 85°C.

Please be aware that an important notice concerning availability, standard warranty, and use in critical applications of Texas Instruments semiconductor products and disclaimers thereto appears at the end of this data sheet.

EPIC and Widebus are trademarks of Texas Instruments Incorporated.

PRODUCTION DATA information is current as of publication date. Products conform to specifications per the terms of Texas Instruments standard warranty. Production processing does not necessarily include testing of all parameters.

Copyright © 1999, Texas Instruments Incorporated

TEXAS INSTRUMENTS
POST OFFICE BOX 655303 • DALLAS, TEXAS 75265

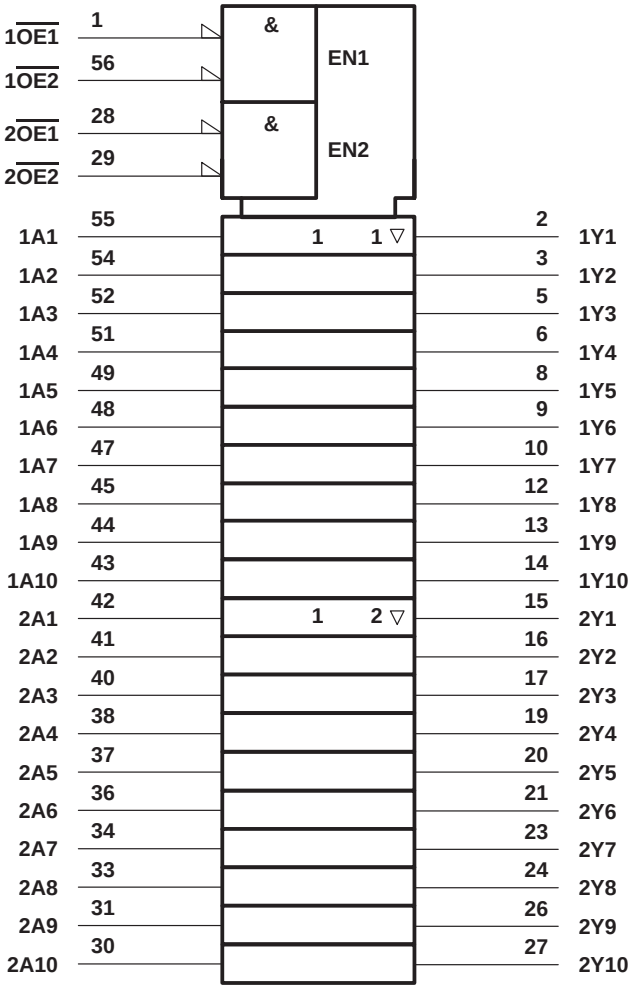
SN74ALVCH16827
20-BIT BUFFER/DRIVER
WITH 3-STATE OUTPUTS

SCES041C – JULY 1995 – REVISED FEBRUARY 1999

FUNCTION TABLE
(each 10-bit section)

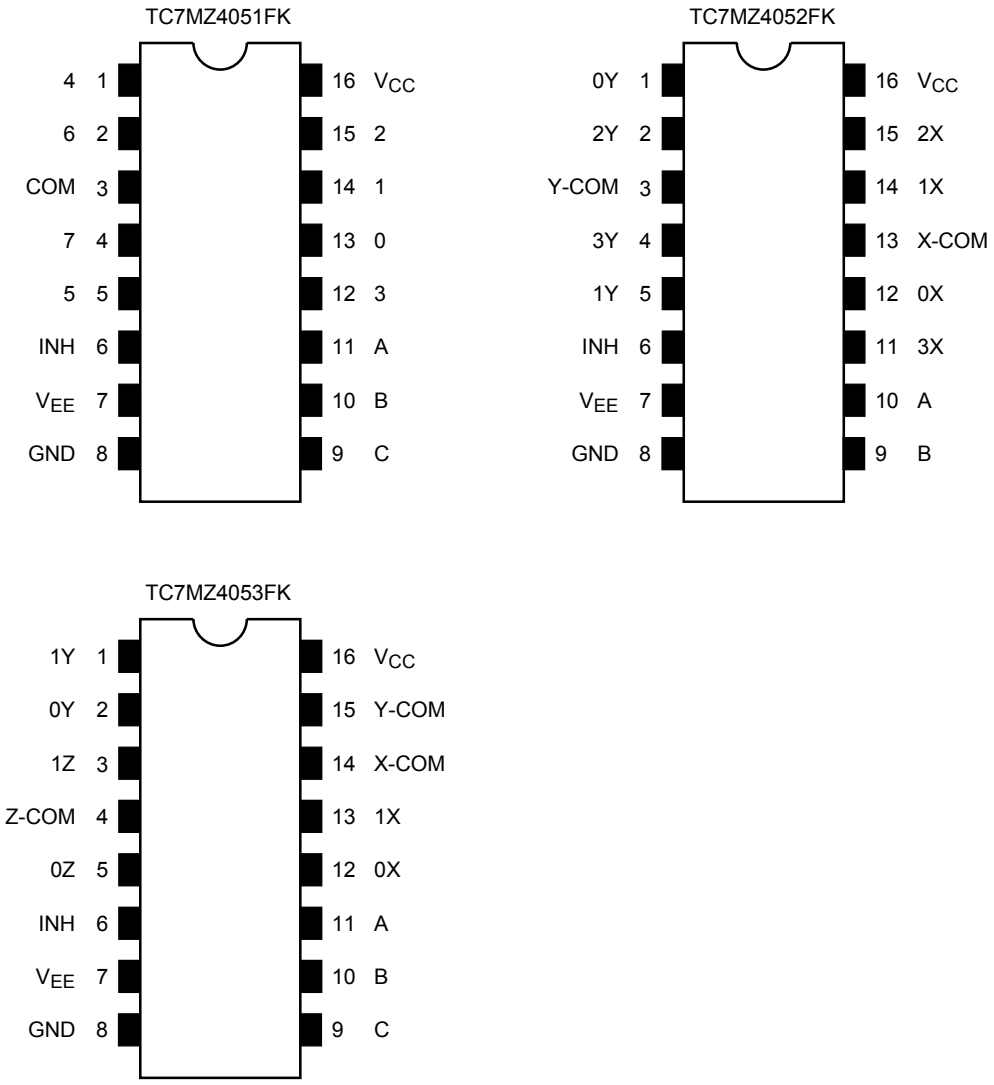
INPUTS			OUTPUT
$\overline{OE1}$	$\overline{OE2}$	A	Y
L	L	L	L
L	L	H	H
H	X	X	Z
X	H	X	Z

logic symbol†



† This symbol is in accordance with ANSI/IEEE Std 91-1984 and IEC Publication 617-12.

Pin Assignment (top view)



Truth Table

Control Inputs				"ON" Channel		
Inhibit	C*	B	A	MZ4051FK	MZ4052FK	MZ4053FK
L	L	L	L	0	0X, 0Y	0X, 0Y, 0Z
L	L	L	H	1	1X, 1Y	1X, 0Y, 0Z
L	L	H	L	2	2X, 2Y	0X, 1Y, 0Z
L	L	H	H	3	3X, 3Y	1X, 1Y, 0Z
L	H	L	L	4	—	0X, 0Y, 1Z
L	H	L	H	5	—	1X, 0Y, 1Z
L	H	H	L	6	—	0X, 1Y, 1Z
L	H	H	H	7	—	1X, 1Y, 1Z
H	X	X	X	None	None	None

X: Don't care, *: Except MZ4052FK

TOSHIBA CMOS Digital Integrated Circuit Silicon Monolithic

TC74HC4094AP,TC74HC4094AF,TC74HC4094AFN

8-Bit Shift and Store Register (3-state)

Note: xxxFN (JEDEC SOP) is not available in Japan.

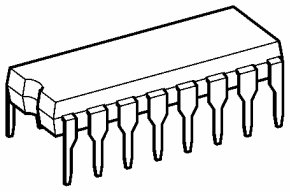
The TC74HC4094A is a high speed CMOS 8-BIT SHIFT AND STROBE REGISTER fabricated with silicon gate C^2MOS technology.

It achieves the high speed operation similar to equivalent LSTTL while maintaining the CMOS low power dissipation.

It consists of an 8-bit shift register and an 8-bit latch with 3-state output buffers. Data is shifted serially though the shift register on the positive going transition of the CK input. The output of the last stage (Qs) can be used to cascade several devices. Data on the Qs output is transferred to a second output (Q's) on the following negative transition of the CK input. The data in each stage of the shift register is provided to a corresponding latch, on the negative going transition of the STROBE input. When STROBE is held high, data propagates through the latch to a 3-state output buffer. This buffer is enabled when OUTPUT ENABLE input is set high.

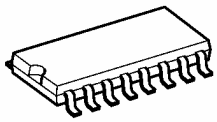
All inputs are equipped with protection circuits against static discharge or transient excess voltage.

TC74HC4094AP



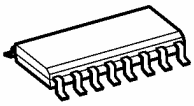
DIP16-P-300-2.54A

TC74HC4094AF



SOP16-P-300-1.27A

TC74HC4094AFN



SOL16-P-150-1.27

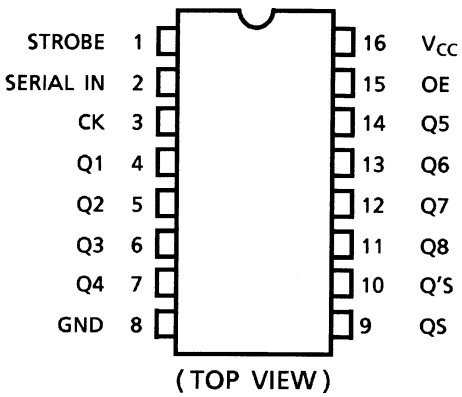
Weight

DIP16-P-300-2.54A	: 1.00 g (typ.)
SOP16-P-300-1.27A	: 0.18 g (typ.)
SOL16-P-150-1.27	: 0.13 g (typ.)

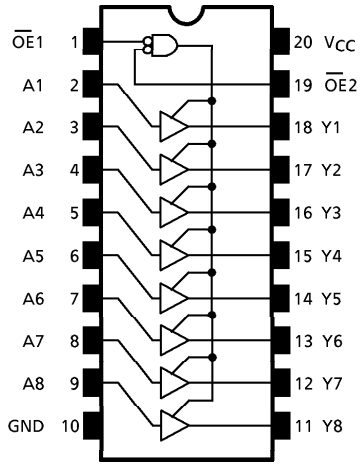
Features

- High speed: f_{max} = 73 MHz (typ.) at V_{CC} = 5 V
- Low power dissipation: I_{CC} = 4 μA (max) at Ta = 25°C
- High noise immunity: $V_{NIH} = V_{NIL}$ = 28% V_{CC} (min)
- Output drive capability: 10 LSTTL loads
- Symmetrical output impedance: $|I_{OH}| = I_{OL}$ = 4 mA (min)
- Balanced propagation delays: $t_{pLH} \simeq t_{pHL}$
- Wide operating voltage range: V_{CC} (opr) = 2 to 6 V
- Pin and function compatible with 4094B

Pin Assignment

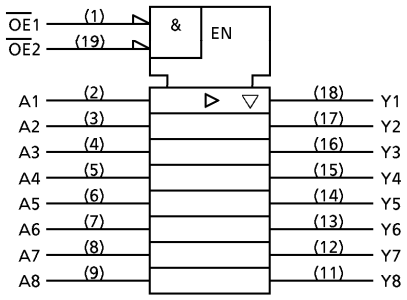


PIN ASSIGNMENT



(TOP VIEW)

IEC LOGIC SYMBOL



TRUTH TABLE

INPUTS			OUTPUTS
$\overline{OE}1$	$\overline{OE}2$	An	
H	X	X	Z
X	H	X	Z
L	L	H	H
L	L	L	L

X : Don't Care
Z : High Impedance

MAXIMUM RATINGS

PARAMETER	SYMBOL	RATING	UNIT
Supply Voltage Range	V_{CC}	−0.5~7.0	V
DC Input Voltage	V_{IN}	−0.5~7.0	V
DC Output Voltage	V_{OUT}	−0.5~7.0 (Note 1)	V
		−0.5~V_{CC}+0.5 (Note 2)	
Input Diode Current	I_{IK}	−50	mA
Output Diode Current	I_{OK}	±50 (Note 3)	mA
DC Output Current	I_{OUT}	±50	mA
Power Dissipation	P_D	180	mW
DC V_{CC}/Ground Current	I_{CC} / I_{GND}	±100	mA
Storage Temperature	T_{stg}	−65~150	°C

(Note 1) Output in Off-State
(Note 2) High or Low State. I_{OUT} absolute maximum rating must be observed.
(Note 3) V_{OUT}<GND, V_{OUT}>V_{CC}

961001EBA2'

- The products described in this document are subject to foreign exchange and foreign trade control laws.
- The information contained herein is presented only as a guide for the applications of our products. No responsibility is assumed by TOSHIBA CORPORATION for any infringements of intellectual property or other rights of the third parties which may result from its use. No license is granted by implication or otherwise under any intellectual property or other rights of TOSHIBA CORPORATION or others.
- The information contained herein is subject to change without notice.

TOSHIBA CMOS DIGITAL INTEGRATED CIRCUIT SILICON MONOLITHIC

TC74VHC08F, TC74VHC08FN, TC74VHC08FT

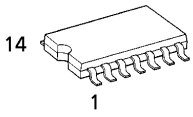
QUAD 2-INPUT AND GATE

(Note) The JEDEC SOP (FN) is not available in Japan.

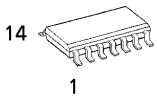
The TC74VHC08 is an advanced high speed CMOS 2-INPUT AND GATE fabricated with silicon gate C²MOS technology.
It achieves the high speed operation similar to equivalent Bipolar Schottky TTL while maintaining the CMOS low power dissipation.
The internal circuit is composed of 4 stages including buffer output, which provide high noise immunity and stable output. An input protection circuit ensures that 0 to 5.5V can be applied to the input pins without regard to the supply voltage. This device can be used to interface from 5V to 3V systems and two supply systems such as battery back up. This circuit prevents device destruction due to mismatched supply and input voltages.

FEATURES:

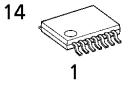
- High Speed ····· t_{pd} = 4.3ns(typ.) at V_{CC} = 5V
- Low Power Dissipation ····· I_{CC} = 2μA(Max.) at Ta = 25°C
- High Noise Immunity ····· $V_{NIH} = V_{NIL}$ = 28% V_{CC} (Min.)
- Power Down Protection is provided on all inputs.
- Balanced Propagation Delays ····· $t_{pLH} \simeq t_{pHL}$
- Wide Operating Voltage Range ···· V_{CC} (opr) = 2V~5.5V
- Low Noise ····· V_{OLP} = 0.8V (Max.)
- Pin and Function Compatible with 74ALS08



F (SOP14-P-300-1.27)
Weight : 0.18g (Typ.)

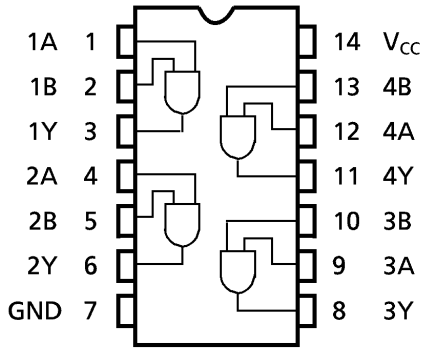


FN (SOL14-P-150-1.27)
Weight : 0.12g (Typ.)



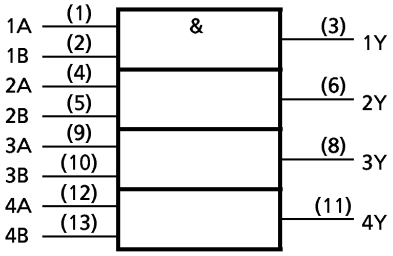
FT (TSSOP14-P-0044-0.65)
Weight : 0.06g (Typ.)

PIN ASSIGNMENT



(TOP VIEW)

IEC LOGIC SYMBOL



TRUTH TABLE

A	B	Y
L	L	L
L	H	L
H	L	L
H	H	H

980910EBA2

● TOSHIBA is continually working to improve the quality and the reliability of its products. Nevertheless, semiconductor devices in general can malfunction or fail due to their inherent electrical sensitivity and vulnerability to physical stress. It is the responsibility of the buyer, when utilizing TOSHIBA products, to observe standards of safety, and to avoid situations in which a malfunction or failure of a TOSHIBA product could cause loss of human life, bodily injury or damage to property. In developing your designs, please ensure that TOSHIBA products are used within specified operating ranges as set forth in the most recent products specifications. Also, please keep in mind the precautions and conditions set forth in the TOSHIBA Semiconductor Reliability Handbook.

TOSHIBA TC74VHC157F/FN/FT

TOSHIBA CMOS DIGITAL INTEGRATED CIRCUIT SILICON MONOLITHIC

TC74VHC157F, TC74VHC157FN, TC74VHC157FT

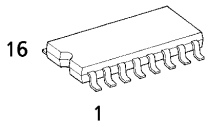
QUAD 2 - CHANNEL MULTIPLEXER

(Note) The JEDEC SOP (FN) is not available in Japan.

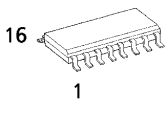
The TC74VHC157 is an advanced high speed CMOS QUAD 2 - CHANNEL MULTIPLEXER fabricated with silicon gate C^2MOS technology.
It achieves the high speed operation similar to equivalent Bipolar Schottky TTL while maintaining the CMOS low power dissipation.
It consists of four 2 - input digital multiplexers with common select and strobe inputs.
When the $\overline{STROBE}$ input is held "H" level, selection of data is inhibited and all the outputs become "L" level.
The SELECT decoding determines whether the A or B inputs get routed to their corresponding Y outputs.
An Input protection circuit ensures that 0 to 5.5V can be applied to the input pins without regard to the supply voltage. This device can be used to interface 5V to 3V systems and on two supply systems such as battery back up. This circuit prevents device destruction due to mismatched supply and input voltages.

FEATURES :

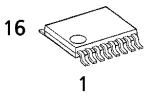
- High Speed ····· t_{pd} = 4.1ns(typ.) at V_{CC} = 5V
- Low Power Dissipation ····· I_{CC} = 4μA(Max.) at Ta = 25°C
- High Noise Immunity ····· $V_{NIH} = V_{NIL}$ = 28% V_{CC} (Min.)
- Power Down Protection is provided on all inputs.
- Balanced Propagation Delays ····· $t_{pLH} \simeq t_{pHL}$
- Wide Operating Voltage Range ···· V_{CC} (opr) = 2V ~ 5.5V
- Low Noise ····· V_{OLP} = 0.8V (Max.)
- Pin and Function Compatible with 74ALS157



F (SOP16-P-300-1.27)
Weight : 0.18g (Typ.)

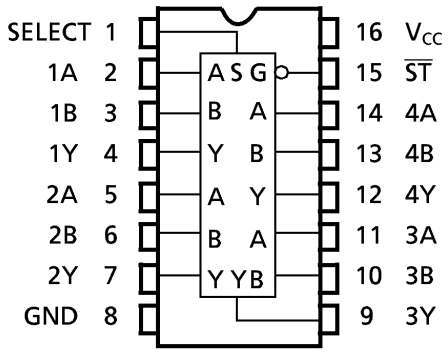


FN (SOL16-P-150-1.27)
Weight : 0.13g (Typ.)



FT (TSSOP16-P-0044-0.65)
Weight : 0.06g (Typ.)

PIN ASSIGNMENT



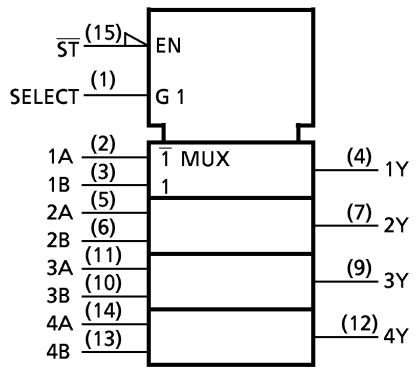
(TOP VIEW)

TRUTH TABLE

INPUTS				OUTPUT
$\overline{ST}$	SELECT	A	B	
H	X	X	X	L
L	L	L	X	L
L	L	H	X	H
L	H	X	L	L
L	H	X	H	H

X : Don't Care

IEC LOGIC SYMBOL



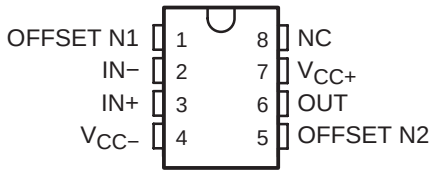
980910EBA2

● TOSHIBA is continually working to improve the quality and the reliability of its products. Nevertheless, semiconductor devices in general can malfunction or fail due to their inherent electrical sensitivity and vulnerability to physical stress. It is the responsibility of the buyer, when utilizing TOSHIBA products, to observe standards of safety, and to avoid situations in which a malfunction or failure of a TOSHIBA product could cause loss of human life, bodily injury or damage to property. In developing your designs, please ensure that TOSHIBA products are used within specified operating ranges as set forth in the most recent products specifications. Also, please keep in mind the precautions and conditions set forth in the TOSHIBA Semiconductor Reliability Handbook.

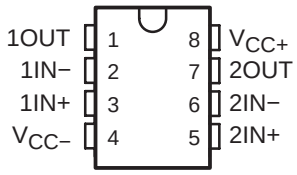
TL071, TL071A, TL071B, TL072
TL072A, TL072B, TL074, TL074A, TL074B
LOW-NOISE JFET-INPUT OPERATIONAL AMPLIFIERS

SLOS080J − SEPTEMBER 1978 − REVISED MARCH 2005

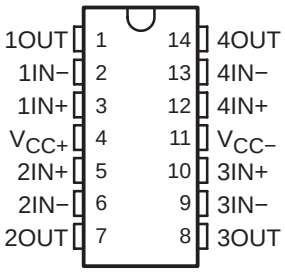
TL071, TL071A, TL071B
D, P, OR PS PACKAGE
(TOP VIEW)



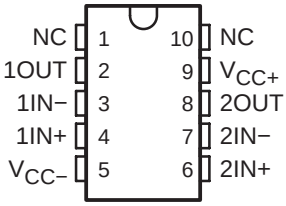
TL072, TL072A, TL072B
D, JG, P, PS, OR PW PACKAGE
(TOP VIEW)



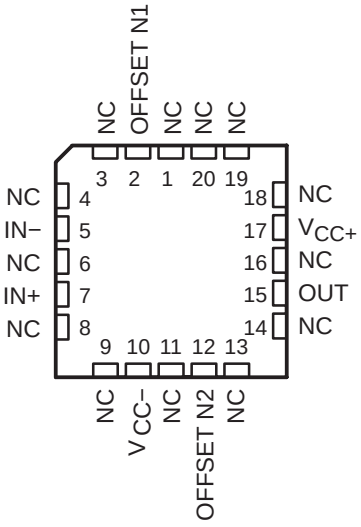
TL074A, TL074B
D, J, N, NS, OR PW PACKAGE
TL074 . . . D, J, N, NS, PW,
OR W PACKAGE
(TOP VIEW)



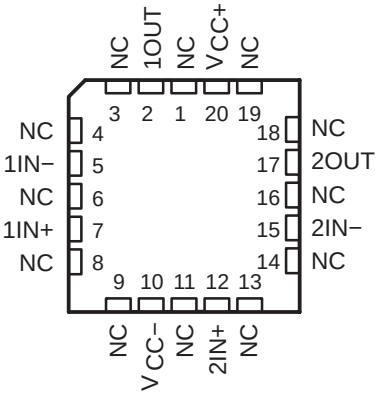
TL072
U PACKAGE
(TOP VIEW)



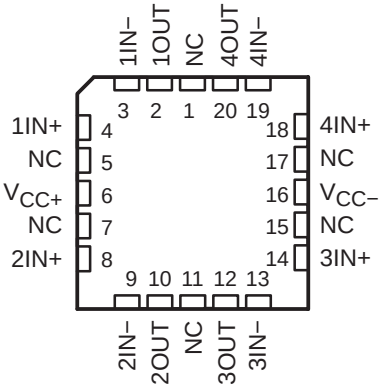
TL071
FK PACKAGE
(TOP VIEW)



TL072
FK PACKAGE
(TOP VIEW)



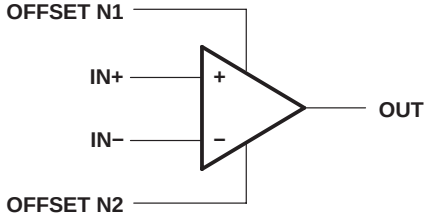
TL074
FK PACKAGE
(TOP VIEW)



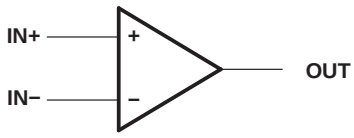
NC − No internal connection

symbols

TL071



TL072 (each amplifier)
TL074 (each amplifier)



1.2 Pin Assignment

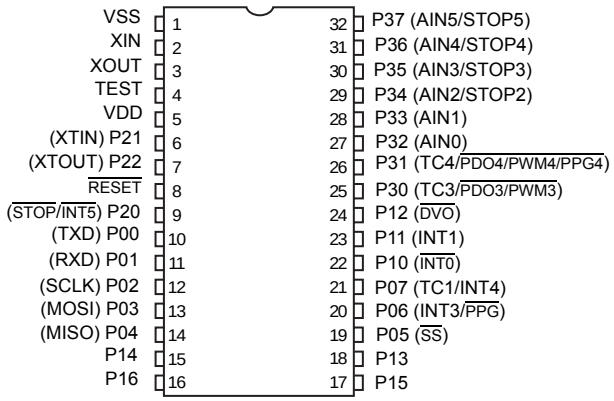


Figure 1-1 Pin Assignment

2. Pin Assignment and Functions

The assignment of input/output pins for the TMP92FD28, their names and functions are as follows:

2.1 Pin Assignment Diagram

Figure 2.1.1 shows the pin assignment of the TMP92FD28FG.

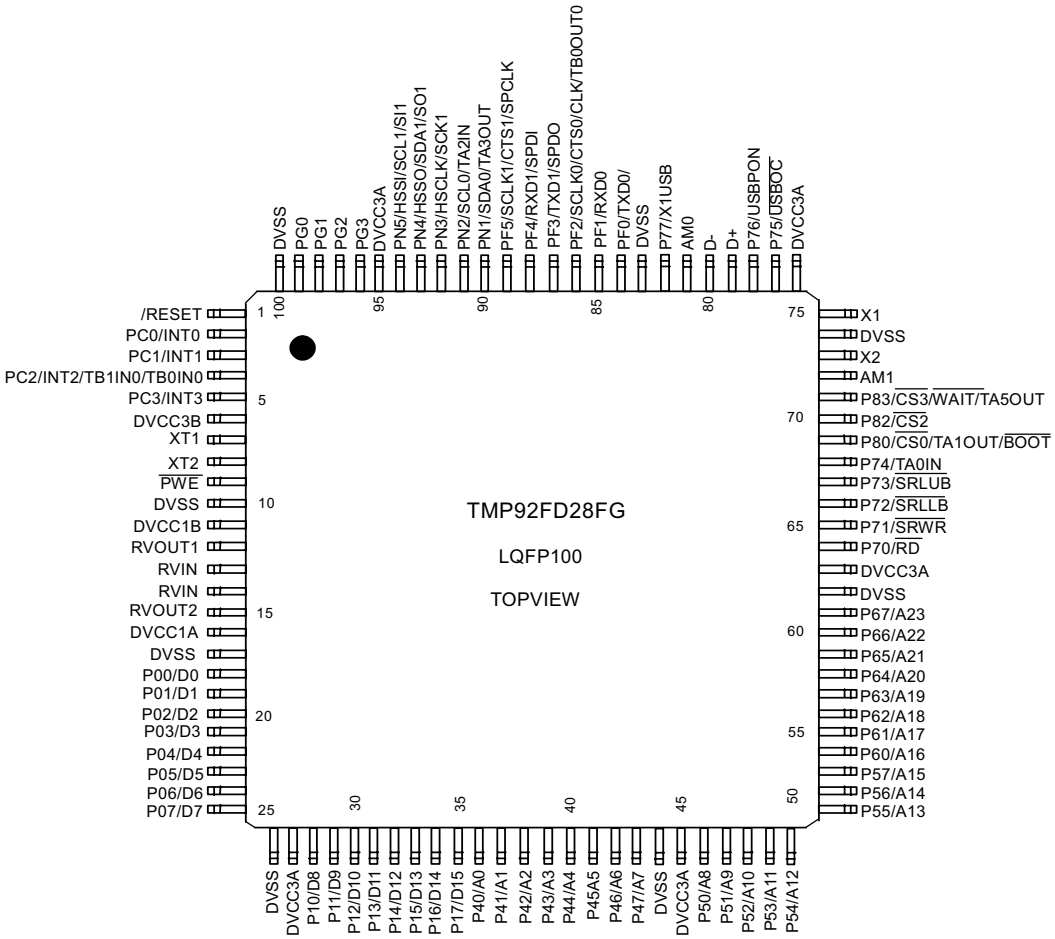


Figure 2.1.1 Pin Assignment Diagram (100-pin LQFP)

2.2 Pin Names and Functions

The following table shows the names and functions of the input/output pins.

Table 2.2.1 Pin Names and Functions (1/3)

Pin name	Number of Pin	I/O	Function
P00 to P07 D0 to D7	8	I/O I/O	Port 0: I/O port Input or output specifiable in units of bits Data: Data bus 0 to 7
P10 to P17 D8 to D15	8	I/O I/O	Port 1: I/O port Input or output specifiable in units of bits Data: Data bus 8 to 15
P40 to P47 A0 to A7	8	I/O Output	Port 4: I/O port Input or output specifiable in units of bits Address: Address bus 0 to 7
P50 to P57 A8 to A15	8	I/O Output	Port 5: I/O port Input or output specifiable in units of bits Address: Address bus 8 to 15
P60 to P67 A16 to A23	8	I/O Output	Port 6: I/O port Input or output specifiable in units of bits Address: Address bus 16 to 23
P70 $\overline{RD}$	1	I/O Output	Port 70: I/O port (Schmitt input, with pull-up register) Read: Outputs strobe signal for read external memory.
P71 $\overline{SRWR}$	1	I/O Output	Port 71: I/O port (Schmitt input, with pull-up register) Write enable for SRAM: Strobe signal for wiritng data.
P72 $\overline{SRLLB}$	1	I/O Output	Port 72: I/O port (Schmitt input, with pull-up register) Data enable for SRAM on pins D0 to D7
P73 $\overline{SRLUB}$	1	I/O Output	Port 73: I/O port (Schmitt input, with pull-up register) Data enable for SRAM on pins D8 to D15
P74 TA0IN	1	I/O Input	Port 74: Input port (Schmitt input) 8-bit timer 0 input: Input pin of 8-bit timer TMRA0
P75 $\overline{USBOC}$	1	I/O Input	Port 75: I/O port (Schmitt input) USBOC Input
P76 USBPON	1	I/O Output	Port 76: I/O port (Schmitt input) USBPON Output
P77 X1USB	1	I/O Input	Port 77: I/O port 48MHz Clock Input for USB Host Controller
P80 $\overline{CS0}$ TA1OUT BOOT	1	Output Output Output Input	Port 80: Output port Chip select 0: Outputs “Low” when address is within specified address area 8-bit timer 1 Output: Output pin of 8-bit timer TMRA0 or TMRA1 This pin sets single boot mode (only during reset).
P82 $\overline{CS2}$	1	Output Output	Port 82: Output port Chip select 2: Outputs “Low” when address is within specified address area
P83 $\overline{CS3}$ TA5OUT $\overline{WAIT}$	1	I/O Output Output Input	Port 83: I/O port Chip select 3: Outputs “Low” when address is within specified address area 8-bit timer 5 Output: Output pin of 8-bit timer TMRA4 or TMRA5 Wait: Signal used to request CPU bus wait
PC0 INT0	1	Input Input	Port C0: Input port (Schmitt input) Interrupt request pin0 : Interrupt request pin with programmable level/rising/falling edge
PC1 INT1	1	Input Input	Port C1: Input port (Schmitt input) Interrupt request pin 1 : Interrupt request pin with programmable level/rising/falling edge
PC2 INT2 TB0IN0 TB1IN0	1	Input Input Input Input	Port C2: Input port (Schmitt input) Interrupt request pin 2 : Interrupt request pin with programmable level/rising/falling edge 16-bit timer 0 input 0: Input of count/capture trigger in 16-bit timer TMRB0 16-bit timer 1 input 0: Input of count/capture trigger in 16-bit timer TMRB1
PC3 INT3	1	Input Input	Port C3: Input port (Schmitt input) Interrupt request pin 3 : Interrupt request pin with programmable level/rising/falling edge

Table 2.2.1 Pin Names and Functions (2/3)

Pin name	Number of Pin	I/O	Function
PF0	1	I/O	Port F0: I/O port (Schmitt input)
TXD0		Output	Serial 0 send data: Open drain output programmable
PF1	1	I/O	Port F1: I/O port (Schmitt input)
RXD0		Input	Serial 0 receive data
PF2	1	I/O	Port F2: I/O port (Schmitt input)
SCLK0		I/O	Serial 0 clock I/O
$\overline{\text{CTS0}}$		Input	Serial 0 data send enable (Clear to send)
CLK		Output	Clock: System Clock output
TB0OUT0		Output	16-bit timer 0 output 0: Output pin of 16-bit timer TMRB0
PF3	1	I/O	Port F3: I/O port (Schmitt input)
TXD1		Output	Serial 1 send data: Open drain output programmable
SPDO		Output	SPI Data output
PF4	1	I/O	Port F4: I/O port (Schmitt input)
RXD1		Input	Serial 1 receive data
SPDI		Input	SPI Data input
PF5	1	I/O	Port F5: I/O port (Schmitt input)
SCLK1		I/O	Serial 1 clock I/O
$\overline{\text{CTS1}}$		Input	Serial 1 data send enable (Clear to send)
SPCLK		Output	SPI Clock output
PG0 to PG3	4	Input	Port G: Input port (Schmitt input)
KI0 to KI3		Input	Key input 0 to 3: Pin used of key-on wakeup 0 to 3
PN1	1	I/O	Port N1: I/O port (Schmitt input, Open drain output)
SDA0		I/O	Serial bus interface 0 send/receive data at I^2C mode
TA3OUT		Output	8-bit timer 3 Output: Output pin of 8-bit timer TMRA2 or TMRA3
PN2	1	I/O	Port N2: I/O port (Schmitt input, Open drain output)
SCL0		I/O	Serial bus interface 0 clock I/O data at I^2C mode
TA2IN		Input	8-bit timer 2 input: Input pin of 8-bit timer TMRA2
PN3	1	I/O	Port N3: I/O port (Schmitt input)
SCK1		I/O	Serial bus interface 1 clock I/O data at SIO mode
HSCLK		Output	HSIO Clock output
PN4	1	I/O	Port N4: I/O port (Schmitt input, Open drain output)
SDA1		I/O	Serial bus interface 1 send/receive data at I^2C mode
SO1		Output	Serial bus interface 1 send data at SIO mode
HSSO		Output	HSIO Data output
PN5	1	I/O	Port N5: I/O port (Schmitt input, Open drain output)
SCL1		I/O	Serial bus interface 1 clock I/O data at I^2C mode
SI1		Input	Serial bus interface 1 receive data at SIO mode
HSSI		Input	HSIO Data input

Table 2.2.1 Pin Names and Functions (3/3)

Pin name	Number of Pin	I/O	Function
X1 / X2	2	I/O	High-frequency oscillator connection I/O pins
XT1 / XT2	2	I/O	Low-frequency oscillator circuit connection pin.
AM0, AM1	2	Input	Operation mode: Fixed to AM1 = "1" and AM0 = "1"
$\overline{\text{RESET}}$	1	Input	Reset: Intializes TMP92FD28 (Schmitt input, with pull-up register)
$\overline{\text{PWE}}$	1	Output	External power supply control output: Pin to control ON/OFF of external power supply. In stand-by mode, outputs "L" level. In other than stand-by mode, outputs "H" level.
D+, D-	2	I/O	Data pin connected to USB. In case USB is not used, connect both pins to pull-up(DVCC3A) or pull-down resistor for protect current flows it.
RVIN	2	Input	Power supply pin for Internal Regulator
RVOUT1, RVOUT2	2	Output	1.5V output from Internal Regulator (Only Mask ROM Version)
DVCC3A	5	−	Power supply pin for peripheral I/O-A (Connect all DVCC3A pins to power supply pin.)
DVCC3B	1	−	Power supply pin for peripheral I/O-B (Connect all DVCC3B pins to power supply pin.)
DVCC1A	1	−	Power supply pin for internal logic-A. (Only Mask ROM Version)
DVCC1B	1	−	Power supply pin for internal logic-B. (Only Mask ROM Version)
DVSS	8	−	GND pins (0 V) (All DVSS pins shold be connected with GND(0V))

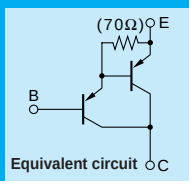
Note1) In Flash version, the regulator does not built. But supply voltage as DVCC3 power because RVIN pins are used power supply pins.

Note2) In Flash version, voltage does not output from RVOUT1 and RVOUT2.

Note3) When using MASK version in combination with Flash version, connect RVOUT1 and DVCC1B, RVOUT2 and DVCC1A.

When using only Flash version, connect DVCC1A and DVCC1B, RVOUT1 and RVOUT2 to VDD3

Darlington 2SB1560



Silicon PNP Epitaxial Planar Transistor (Complement to type 2SD2390)

Application : Audio, Series Regulator and General Purpose

Absolute maximum ratings (Ta=25°C)

Symbol	2SB1560	Unit
V_{CBO}	–160	V
V_{CEO}	–150	V
V_{EBO}	–5	V
I_C	–10	A
I_B	–1	A
P_C	100(Tc=25°C)	W
Tj	150	°C
Tstg	–55 to +150	°C

Electrical Characteristics (Ta=25°C)

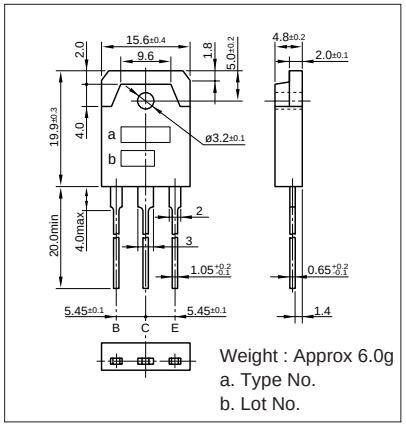
Symbol	Conditions	2SB1560	Unit
I_{CBO}	V_{CB}=–160V	–100max	μA
I_{EBO}	V_{EB}=–5V	–100max	μA
$V_{(BR)CEO}$	I_C=–30mA	–150min	V
h_{FE}	V_{CE}=–4V, I_C=–7A	5000min*	
$V_{CE(sat)}$	I_C=–7A, I_B=–7mA	–2.5max	V
$V_{BE(sat)}$	I_C=–7A, I_B=–7mA	–3.0max	V
fr	V_{CE}=–12V, I_E=2A	50typ	MHz
C_{OB}	V_{CB}=–10V, f=1MHz	230typ	pF

*h_{FE} Rank O(5000 to 12000), P(6500 to 20000), Y(15000 to 30000)

Typical Switching Characteristics (Common Emitter)

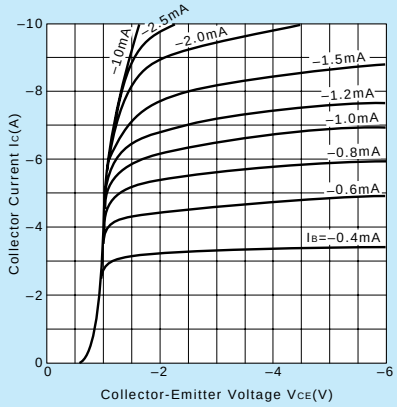
V_{CC} (V)	R_L (Ω)	I_C (A)	V_{BB1} (V)	V_{BB2} (V)	I_{B1} (mA)	I_{B2} (mA)	ton (μs)	tstg (μs)	tf (μs)
–70	10	–7	–10	5	–7	7	0.8typ	3.0typ	1.2typ

External Dimensions MT-100(TO3P)

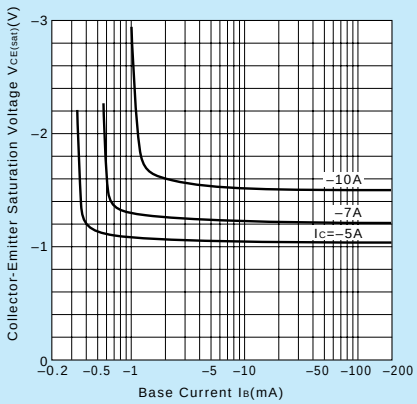


Weight : Approx 6.0g
a. Type No.
b. Lot No.

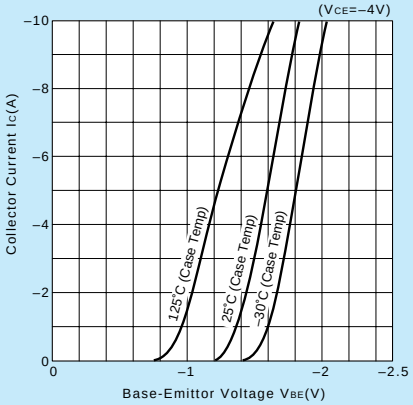
I_C–V_{CE} Characteristics (Typical)



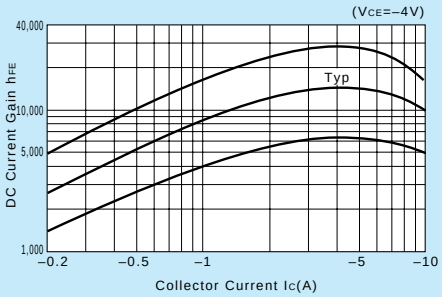
$V_{CE(sat)}$–I_B Characteristics (Typical)



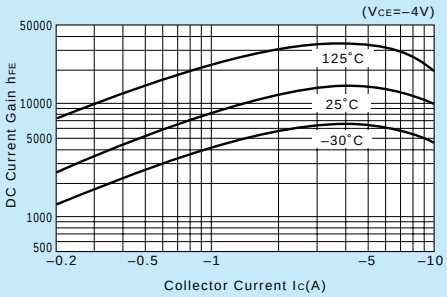
I_C–V_{BE} Temperature Characteristics (Typical)



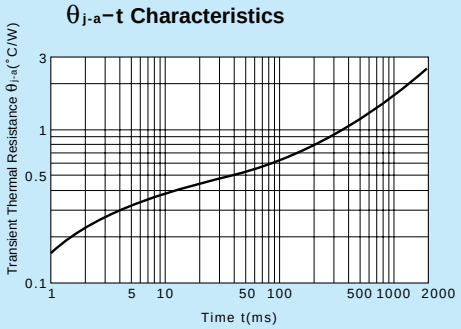
h_{FE}–I_C Characteristics (Typical)



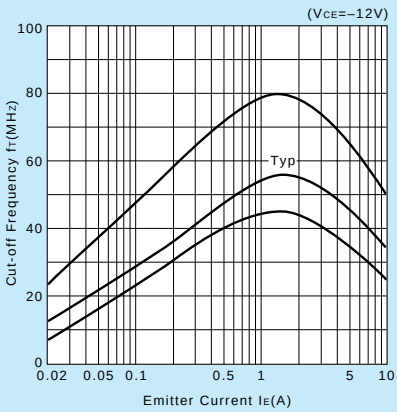
h_{FE}–I_C Temperature Characteristics (Typical)



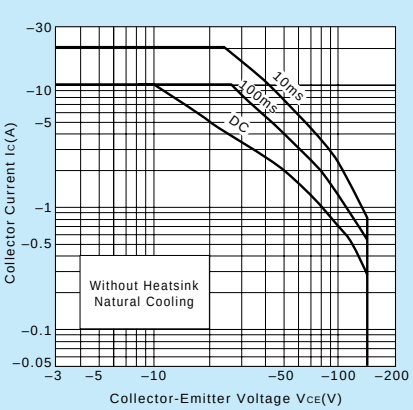
$\theta_{j\text{-}a}$–t Characteristics



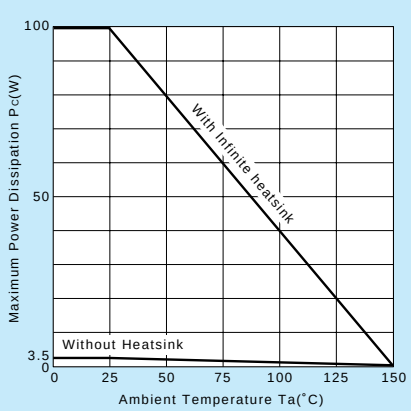
f_T–I_E Characteristics (Typical)



Safe Operating Area (Single Pulse)

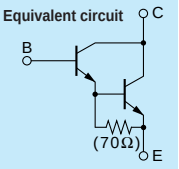


P_C–Ta Derating



Darlington 2SD2390

Equivalent circuit



Silicon NPN Triple Diffused Planar Transistor (Complement to type 2SB1560)

Application : Audio, Series Regulator and General Purpose

Absolute maximum ratings (Ta=25°C)

Symbol	2SD2390	Unit
V_{CBO}	160	V
V_{CEO}	150	V
V_{EBO}	5	V
I_C	10	A
I_B	1	A
P_C	100(Tc=25°C)	W
Tj	150	°C
Tstg	–55 to +150	°C

Electrical Characteristics (Ta=25°C)

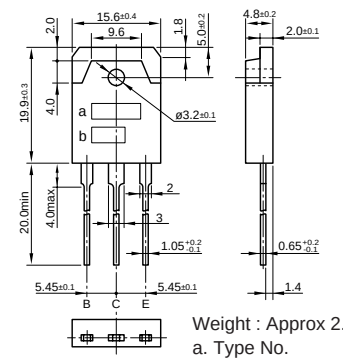
Symbol	Conditions	2SD2390	Unit
I_{CBO}	V_{CB}=160V	100max	μA
I_{EBO}	V_{EB}=5V	100max	μA
$V_{(BR)CEO}$	I_C=30mA	150min	V
h_{FE}	V_{CE}=4V, I_C=7A	5000min*	
$V_{CE(sat)}$	I_C=7A, I_B=7mA	2.5max	V
$V_{BE(sat)}$	I_C=7A, I_B=7mA	3.0max	V
f_T	V_{CE}=12V, I_E=–2A	55typ	MHz
C_{OB}	V_{CB}=10V, f=1MHz	95typ	pF

*h_{FE} Rank O(5000 to 12000), P(6500 to 20000), Y(15000 to 30000)

Typical Switching Characteristics (Common Emitter)

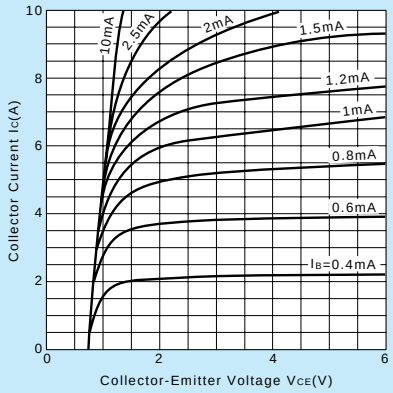
V_{CC} (V)	R_L (Ω)	I_C (A)	V_{BB1} (V)	V_{BB2} (V)	I_{B1} (mA)	I_{B2} (mA)	ton (μs)	tstg (μs)	tf (μs)
70	10	7	10	–5	7	–7	0.5typ	10.0typ	1.1typ

External Dimensions MT-100(TO3P)

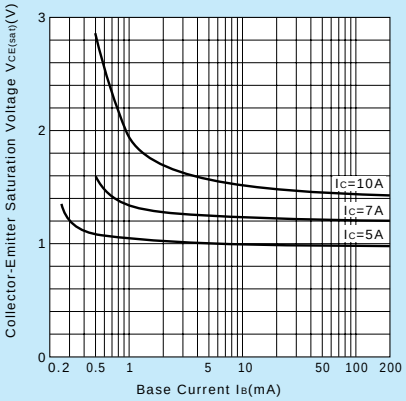


Weight : Approx 2.0g
a. Type No.
b. Lot No.

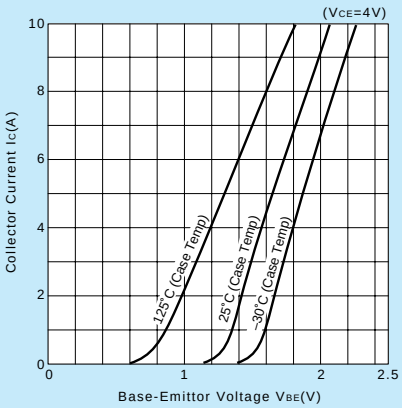
I_C–V_{CE} Characteristics (Typical)



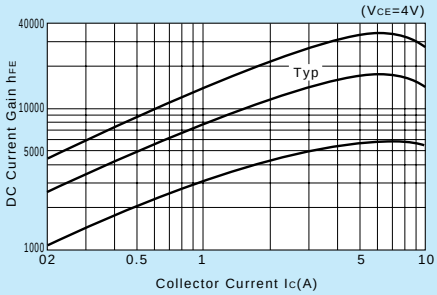
$V_{CE(sat)}$–I_B Characteristics (Typical)



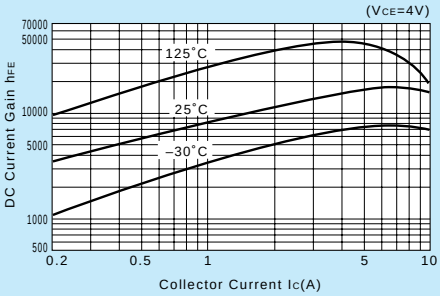
I_C–V_{BE} Temperature Characteristics (Typical)



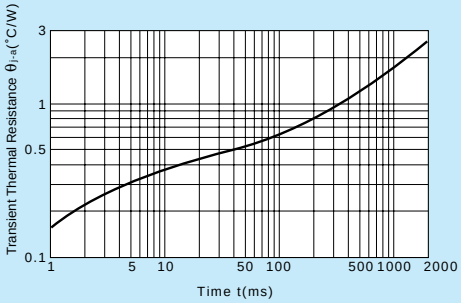
h_{FE}–I_C Characteristics (Typical)



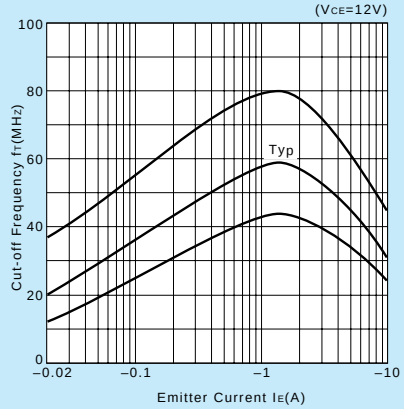
h_{FE}–I_C Temperature Characteristics (Typical)



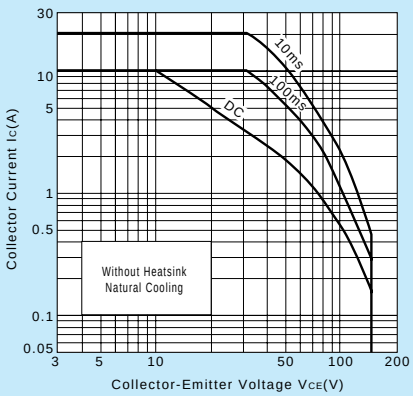
$\theta_{j\text{-}a}$–t Characteristics



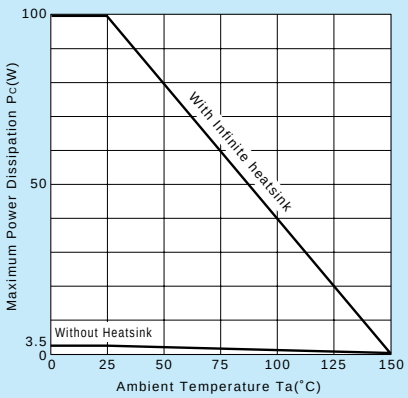
f_T–I_E Characteristics (Typical)



Safe Operating Area (Single Pulse)



Pc–Ta Derating



KOREA ELECTRONICS CO.,LTD.

SEMICONDUCTOR TECHNICAL DATA

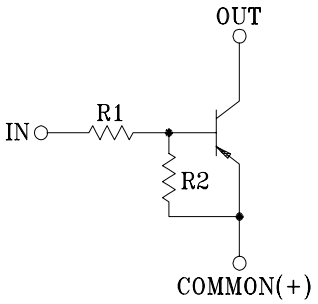
KRA101S ~ KRA106S

EPITAXIAL PLANAR PNP TRANSISTOR

SWITCHING APPLICATION.
INTERFACE CIRCUIT AND DRIVER CIRCUIT APPLICATION.

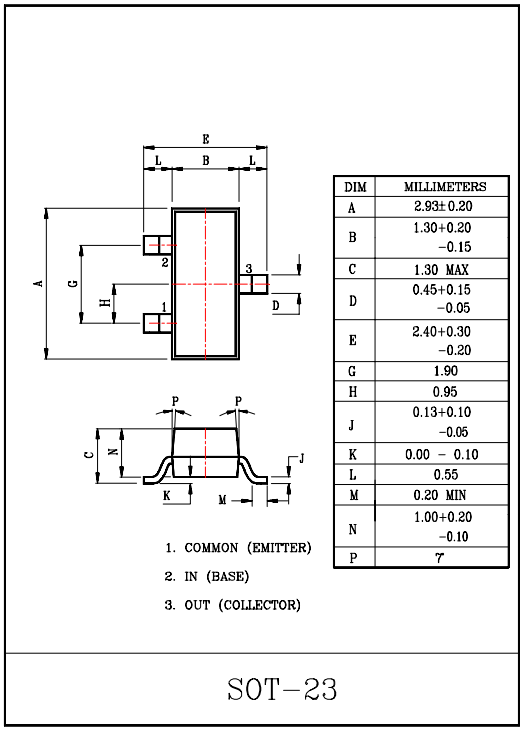
FEATURES
- With Built-in Bias Resistors.
- Simplify Circuit Design.
- Reduce a Quantity of Parts and Manufacturing Process.

EQUIVALENT CIRCUIT



BIAS RESISTOR VALUES

TYPE NO.	R1(kΩ)	R2(kΩ)
KRA101S	4.7	4.7
KRA102S	10	10
KRA103S	22	22
KRA104S	47	47
KRA105S	2.2	47
KRA106S	4.7	47



DIM	MILLIMETERS
A	2.93± 0.20
B	1.30+0.20 −0.15
C	1.30 MAX
D	0.45+0.15 −0.05
E	2.40+0.30 −0.20
G	1.90
H	0.95
J	0.13+0.10 −0.05
K	0.00 ~ 0.10
L	0.55
M	0.20 MIN
N	1.00+0.20 −0.10
P	7°

SOT-23

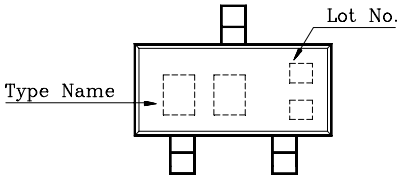
MAXIMUM RATINGS (Ta=25℃)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Output Voltage	KRA101S~106S	V_O	-50	V
Input Voltage	KRA101S	V_I	-20, 10	V
	KRA102S		-30, 10	
	KRA103S		-40, 10	
	KRA104S		-40, 10	
	KRA105S		-12, 5	
	KRA106S		-20, 5	
Output Current	KRA101S~106S	I_O	-100	mA
Power Dissipation		P_D	200	mW
Junction Temperature		T_j	150	℃
Storage Temperature Range		T_{stg}	-55~150	℃

MARK SPEC

TYPE	KRA101S	KRA102S	KRA103S	KRA104S	KRA105S	KRA106S
MARK	PA	PB	PC	PD	PE	PF

Marking



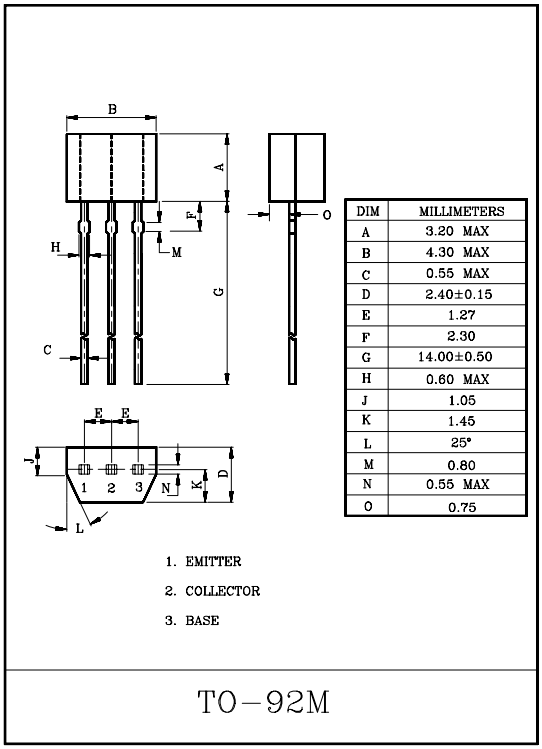
KOREA ELECTRONICS CO.,LTD.

SEMICONDUCTOR
TECHNICAL DATA

KRA107M~ KRA109M
EPITAXIAL PLANAR PNP TRANSISTOR

SWITCHING APPLICATION.
INTERFACE CIRCUIT AND DRIVER
CIRCUIT APPLICATION.

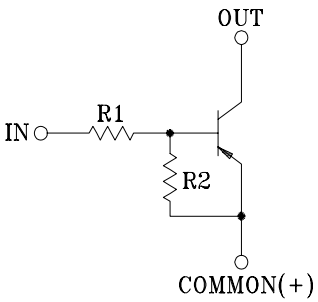
FEATURES
- With Built-in Bias Resistors.
- Simplify Circuit Design.
- Reduce a Quantity of Parts and Manufacturing Process.



DIM	MILLIMETERS
A	3.20 MAX
B	4.30 MAX
C	0.55 MAX
D	2.40±0.15
E	1.27
F	2.30
G	14.00±0.50
H	0.60 MAX
J	1.05
K	1.45
L	25°
M	0.80
N	0.55 MAX
O	0.75

TO-92M

EQUIVALENT CIRCUIT



BIAS RESISTOR VALUES

TYPE NO.	R1(kΩ)	R2(kΩ)
KRA107M	10	47
KRA108M	22	47
KRA109M	47	22

MAXIMUM RATINGS(Ta=25℃)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Output Voltage	KRA107M ~109M	V_O	-50	V
Input Voltage	KRA107M	V_I	-30, 6	V
	KRA108M		-40, 7	
	KRA109M		-40, 15	
Output Current	KRA107M ~109M	I_O	-100	mA
Power Dissipation		P_D	400	mW
Junction Temperature		T_j	150	℃
Storage Temperature Range		T_{stg}	-55~150	℃

KOREA ELECTRONICS CO.,LTD.

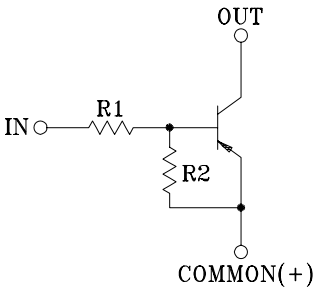
SEMICONDUCTOR
TECHNICAL DATA

KRA107S ~ KRA109S
EPITAXIAL PLANAR PNP TRANSISTOR

SWITCHING APPLICATION.
INTERFACE CIRCUIT AND DRIVER CIRCUIT APPLICATION.

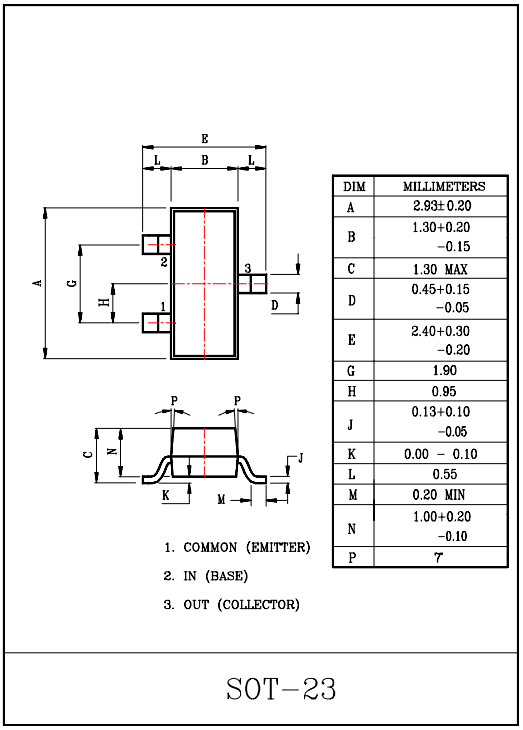
FEATURES
- With Built-in Bias Resistors
- Simplify Circuit Design
- Reduce a Quantity of Parts and Manufacturing Process

EQUIVALENT CIRCUIT



BIAS RESISTOR VALUES

TYPE NO.	R1(kΩ)	R2(kΩ)
KRA107S	10	47
KRA108S	22	47
KRA109S	47	22



DIM	MILLIMETERS
A	2.93±0.20
B	1.30+0.20 −0.15
C	1.30 MAX
D	0.45+0.15 −0.05
E	2.40+0.30 −0.20
G	1.90
H	0.95
J	0.13+0.10 −0.05
K	0.00 ~ 0.10
L	0.55
M	0.20 MIN
N	1.00+0.20 −0.10
P	7°

SOT-23

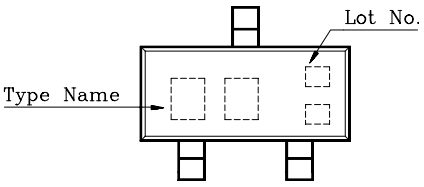
MAXIMUM RATINGS(Ta=25℃)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Output Voltage	KRA107S~109S	V_O	-50	V
Input Voltage	KRA107S	V_I	-30, 6	V
	KRA108S		-40, 7	
	KRA109S		-40, 15	
Output Current	KRA107S~109S	I_O	-100	mA
Power Dissipation		P_D	200	mW
Junction Temperature		T_j	150	℃
Storage Temperature Range		T_{stg}	-55~150	℃

MARK SPEC

TYPE	KRA107S	KRA108S	KRA109S
MARK	PH	PI	PJ

Marking



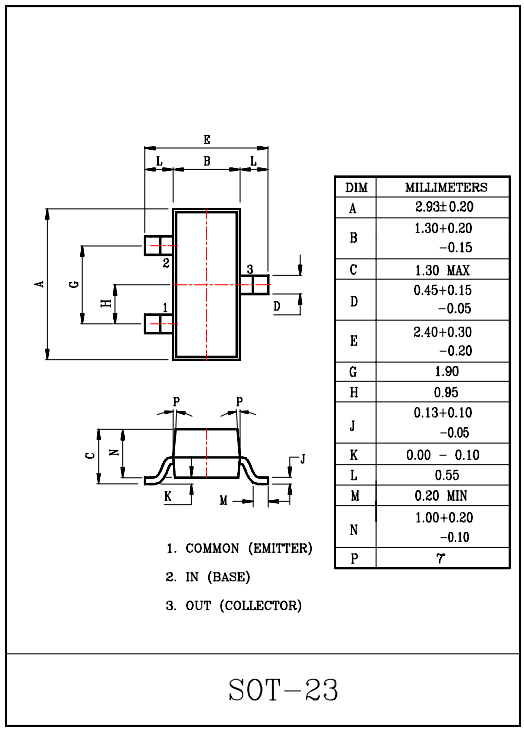
KOREA ELECTRONICS CO.,LTD.

SEMICONDUCTOR
TECHNICAL DATA

KRC101S~ KRC106S
EPITAXIAL PLANAR NPN TRANSISTOR

SWITCHING APPLICATION.
INTERFACE CIRCUIT AND DRIVER CIRCUIT APPLICATION.

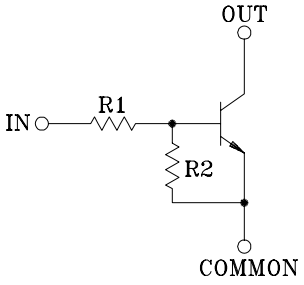
FEATURES
- With Built-in Bias Resistors.
- Simplify Circuit Design.
- Reduce a Quantity of Parts and Manufacturing Process.



DIM	MILLIMETERS
A	2.93±0.20
B	1.30+0.20 −0.15
C	1.30 MAX
D	0.45+0.15 −0.05
E	2.40+0.30 −0.20
G	1.90
H	0.95
J	0.13+0.10 −0.05
K	0.00 ~ 0.10
L	0.55
M	0.20 MIN
N	1.00+0.20 −0.10
P	7°

SOT-23

EQUIVALENT CIRCUIT



BIAS RESISTOR VALUES

TYPE NO.	R1(kΩ)	R2(kΩ)
KRC101S	4.7	4.7
KRC102S	10	10
KRC103S	22	22
KRC104S	47	47
KRC105S	2.2	47
KRC106S	4.7	47

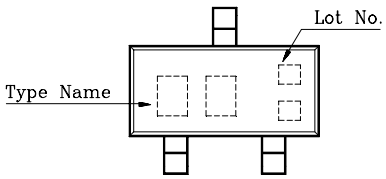
MAXIMUM RATINGS (Ta=25℃)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Output Voltage	KRC101S ~106S	V_O	50	V
Input Voltage	KRC101S	V_I	20, -10	V
	KRC102S		30, -10	
	KRC103S		40, -10	
	KRC104S		40, -10	
	KRC105S		12, -5	
	KRC106S		20, -5	
Output Current	KRC101S ~106S	I_O	100	mA
Power Dissipation		P_D	200	mW
Junction Temperature		T_j	150	℃
Storage Temperature Range		T_{stg}	-55~150	℃

MARK SPEC

TYPE	KRC101S	KRC102S	KRC103S	KRC104S	KRC105S	KRC106S
MARK	NA	NB	NC	ND	NE	NF

Marking



KOREA ELECTRONICS CO.,LTD.

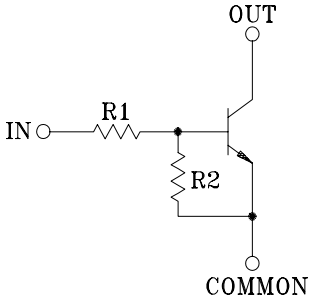
SEMICONDUCTOR
TECHNICAL DATA

KRC107M~ KRC109M
EPITAXIAL PLANAR NPN TRANSISTOR

SWITCHING APPLICATION.
INTERFACE CIRCUIT AND DRIVER CIRCUIT APPLICATION.

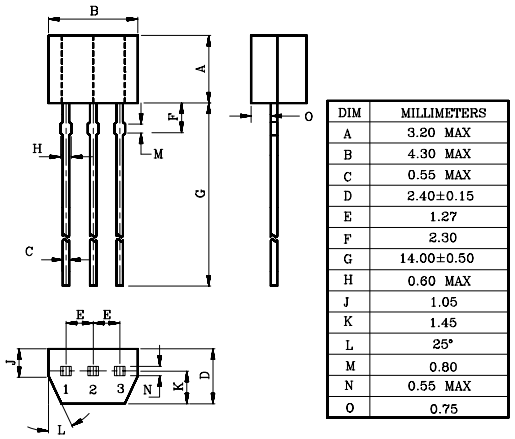
FEATURES
- With Built-in Bias Resistors.
- Simplify Circuit Design.
- Reduce a Quantity of Parts and Manufacturing Process.

EQUIVALENT CIRCUIT



BIAS RESISTOR VALUES

TYPE NO.	R1(kΩ)	R2(kΩ)
KRC107M	10	47
KRC108M	22	47
KRC109M	47	22



DIM	MILLIMETERS
A	3.20 MAX
B	4.30 MAX
C	0.55 MAX
D	2.40±0.15
E	1.27
F	2.30
G	14.00±0.50
H	0.60 MAX
J	1.05
K	1.45
L	25°
M	0.80
N	0.55 MAX
O	0.75

1. EMITTER
2. COLLECTOR
3. BASE

TO-92M

MAXIMUM RATINGS (Ta=25℃)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Output Voltage	KRC107M ~109M	V_O	50	V
Input Voltage	KRC107M	V_I	30, -6	V
	KRC108M		40, -7	
	KRC109M		40,-15	
Output Current	KRC107M ~109M	I_O	100	mA
Power Dissipation		P_D	400	mW
Junction Temperature		T_j	150	℃
Storage Temperature Range		T_{stg}	-55~150	℃

KOREA ELECTRONICS CO.,LTD.

SEMICONDUCTOR TECHNICAL DATA

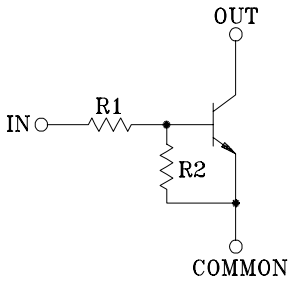
KRC107S ~ KRC109S

EPITAXIAL PLANAR NPN TRANSISTOR

SWITCHING APPLICATION.
INTERFACE CIRCUIT AND DRIVER CIRCUIT APPLICATION.

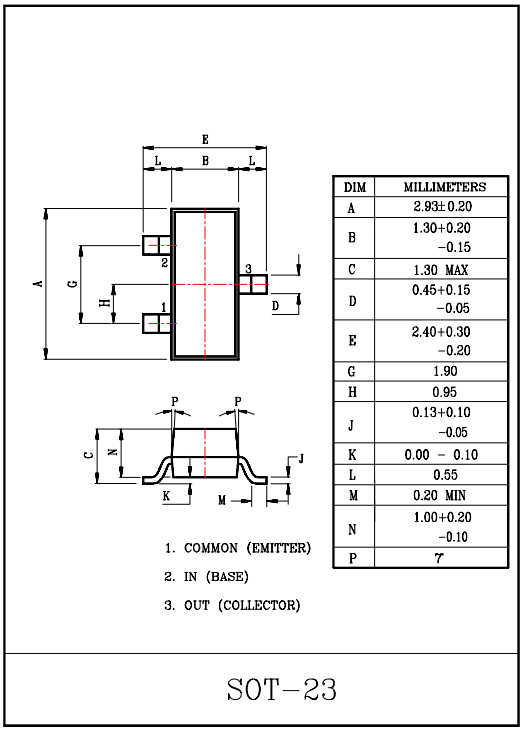
FEATURES
- With Built-in Bias Resistors.
- Simplify Circuit Design.
- Reduce a Quantity of Parts and Manufacturing Process.

EQUIVALENT CIRCUIT



BIAS RESISTOR VALUES

TYPE NO.	R1(kΩ)	R2(kΩ)
KRC107S	10	47
KRC108S	22	47
KRC109S	47	22



DIM	MILLIMETERS
A	2.93±0.20
B	1.30+0.20 −0.15
C	1.30 MAX
D	0.45+0.15 −0.05
E	2.40+0.30 −0.20
G	1.90
H	0.95
J	0.13+0.10 −0.05
K	0.00 ~ 0.10
L	0.55
M	0.20 MIN
N	1.00+0.20 −0.10
P	7°

SOT-23

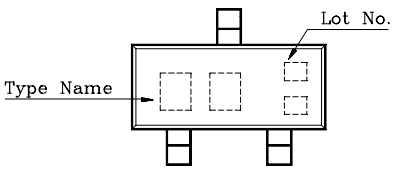
MAXIMUM RATINGS (Ta=25℃)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Output Voltage	KRC107S ~109S	V_O	50	V
Input Voltage	KRC107S	V_I	30, -6	V
	KRC108S		40, -7	
	KRC109S		40,-15	
Output Current	KRC107S ~109S	I_O	100	mA
Power Dissipation		P_D	200	mW
Junction Temperature		T_j	150	℃
Storage Temperature Range		T_{stg}	-55~150	℃

MARK SPEC

TYPE	KRC107S	KRC108S	KRC109S
MARK	NH	NI	NJ

Marking



KOREA ELECTRONICS CO.,LTD.

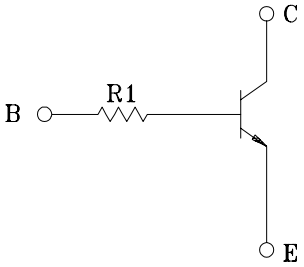
SEMICONDUCTOR
TECHNICAL DATA

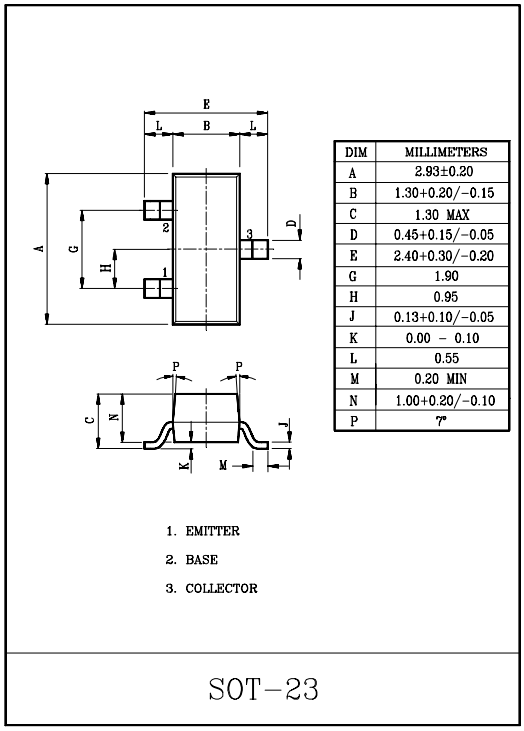
KRC110S ~ KRC114S
EPITAXIAL PLANAR NPN TRANSISTOR

SWITCHING APPLICATION.
INTERFACE CIRCUIT AND DRIVER CIRCUIT APPLICATION.

FEATURES
- With Built-in Bias Resistors.
- Simplify Circuit Design.
- Reduce a Quantity of Parts and Manufacturing Process.

EQUIVALENT CIRCUIT





DIM	MILLIMETERS
A	2.93±0.20
B	1.30+0.20/−0.15
C	1.30 MAX
D	0.45+0.15/−0.05
E	2.40+0.30/−0.20
G	1.90
H	0.95
J	0.13+0.10/−0.05
K	0.00 − 0.10
L	0.55
M	0.20 MIN
N	1.00+0.20/−0.10
P	7°

SOT-23

MAXIMUM RATINGS (Ta=25℃)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	50	V
Collector-Emitter Voltage	V_{CEO}	50	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	I_C	100	mA

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector Power Dissipation	P_C	200	mW
Junction Temperature	T_j	150	℃
Storage Temperature Range	T_{stg}	-55~150	℃

ELECTRICAL CHARACTERISTICS (Ta=25℃)

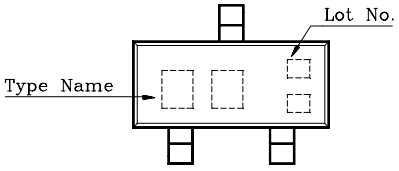
CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	V_{CB}=50V, I_E=0	-	-	100	nA
Emitter Cut-off Current		I_{EBO}	V_{EB}=5V, I_C=0	-	-	100	nA
DC Current Gain		h_{FE}	V_{CE}=5V, I_C=1mA	120	-	-	
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	I_C=10mA, I_B=0.5mA	-	0.1	0.3	V
Transition Frequency		f_T *	V_{CE}=10V, I_C=5mA	-	250	-	MHz
Input Resistor	KRC110S	R_1		-	4.7	-	kΩ
	KRC111S			-	10	-	
	KRC112S			-	100	-	
	KRC113S			-	22	-	
	KRC114S			-	47	-	

Note : * Characteristic of Transistor Only

MARK SPEC

TYPE	KRC110S	KRC111S	KRC112S	KRC113S	KRC114S
MARK	NK	NM	NN	NO	NP

Marking



KOREA ELECTRONICS CO.,LTD.

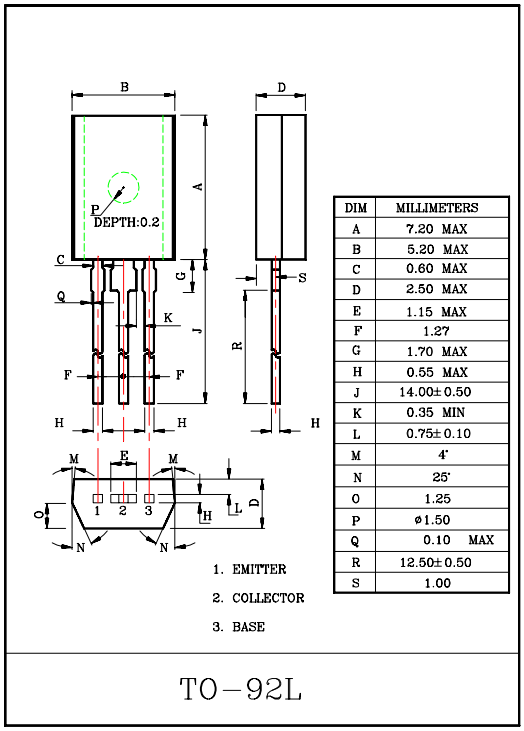
SEMICONDUCTOR
TECHNICAL DATA

KTC1027
EPITAXIAL PLANAR NPN TRANSISTOR

HIGH VOLTAGE APPLICATION.

FEATURE

- Complementary to KTA1023.



DIM	MILLIMETERS
A	7.20 MAX
B	5.20 MAX
C	0.60 MAX
D	2.50 MAX
E	1.15 MAX
F	1.27
G	1.70 MAX
H	0.55 MAX
J	14.00±0.50
K	0.35 MIN
L	0.75±0.10
M	4°
N	25°
O	1.25
P	ø1.50
Q	0.10 MAX
R	12.50±0.50
S	1.00

TO-92L

MAXIMUM RATINGS(Ta=25℃)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	120	V
Collector-Emitter Voltage	V_{CEO}	120	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	I_C	800	mA
Emitter Current	I_E	-800	mA
Collector Power Dissipation	P_C	1	W
Junction Temperature	T_j	150	℃
Storage Temperature Range	T_{stg}	-55~150	℃

ELECTRICAL CHARACTERISTICS (Ta=25℃)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	V_{CB}=120V, I_E=0	-	-	100	nA
Emitter Cut-off Current	I_{EBO}	V_{EB}=5V, I_C=0	-	-	100	nA
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=10mA, I_B=0	120	-	-	V
Emitter-Base Breakdown Voltage	$V_{(BR)EBO}$	I_E=1mA, I_C=0	5.0	-	-	V
DC Current Gain	h_{FE} (Note)	V_{CE}=5V, I_C=100mA	80	-	240	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=500mA, I_B=50mA	-	-	1.0	V
Base-Emitter Voltage	V_{BE}	V_{CE}=5V, I_C=500mA	-	-	1.0	V
Transition Frequency	f_T	V_{CE}=5V, I_C=100mA	-	120	-	MHz
Collector Output Capacitance	C_{ob}	V_{CB}=10V, I_E=0, f=1MHz	-	-	30	pF

Note : h_{FE} Classification O:80~160 , Y:120~240

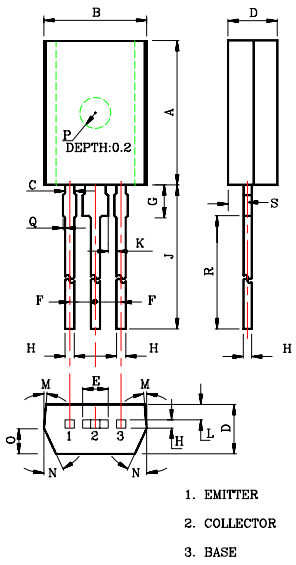
KOREA ELECTRONICS CO.,LTD.

SEMICONDUCTOR
TECHNICAL DATA

KTA1024
TRIPLE DIFFUSED PNP TRANSISTOR

HIGH VOLTAGE APPLICATION.

FEATURES
- High Voltage : V_{CEO}=-150V.
- Low Output Capacitance : C_{ob}=5.0pF(Max.).
- High Transition Frequency : f_T=120MHz (Typ.).
- Complementary to KTC3206.



DIM	MILLIMETERS
A	7.20 MAX
B	5.20 MAX
C	0.60 MAX
D	2.50 MAX
E	1.15 MAX
F	1.27
G	1.70 MAX
H	0.55 MAX
J	14.00±0.50
K	0.35 MIN
L	0.75±0.10
M	4°
N	25°
O	1.25
P	ø1.50
Q	0.10 MAX
R	12.50±0.50
S	1.00

TO-92L

MAXIMUM RATINGS (Ta=25℃)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	-150	V
Collector-Emitter Voltage	V_{CEO}	-150	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	-50	mA
Emitter Current	I_E	50	mA
Collector Power Dissipation	P_C	1	W
Junction Temperature	T_j	150	℃
Storage Temperature Range	T_{stg}	-55~150	℃

ELECTRICAL CHARACTERISTICS (Ta=25℃)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	V_{CB}=-150V, I_E=0	-	-	-0.1	μA
Emitter Cut-off Current	I_{EBO}	V_{EB}=-5V, I_C=0	-	-	-0.1	μA
DC Current Gain	h_{FE}(Note)	V_{CE}=-5V, I_C=-10mA	70	-	240	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=-10mA, I_B=-1mA	-	-	-0.8	V
Base-Emitter Voltage	V_{BE}	V_{CE}=-5V, I_C=-30mA	-	-	-0.9	V
Transition Frequency	f_T	V_{CE}=-30V, I_C=-10mA	-	120	-	MHz
Collector Output Capacitance	C_{ob}	V_{CB}=-10V, I_E=0, f=1MHz	-	4.0	5.0	pF

Note : h_{FE} Classification O:70~140, Y:120~240

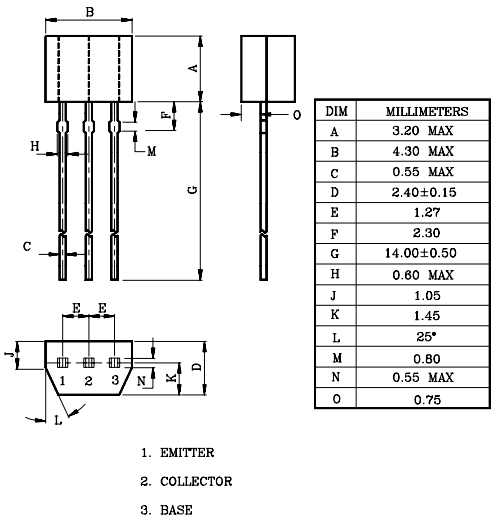
KOREA ELECTRONICS CO.,LTD.

SEMICONDUCTOR
TECHNICAL DATA

KTA1267
EPITAXIAL PLANAR PNP TRANSISTOR

GENERAL PURPOSE APPLICATION
SWITCHING APPLICATION.

FEATURES
- Excellent h_{FE} Linearity
  : h_{FE}(0.1mA)/h_{FE}(2mA)=0.95(Typ.).
- Low Noise : NF=1dB(Typ.), 10dB(Max.).
- Complementary to KTC3199.



DIM	MILLIMETERS
A	3.20 MAX
B	4.30 MAX
C	0.55 MAX
D	2.40±0.15
E	1.27
F	2.30
G	14.00±0.50
H	0.60 MAX
J	1.05
K	1.45
L	25°
M	0.80
N	0.55 MAX
O	0.75

TO-92M

MAXIMUM RATINGS (Ta=25℃)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	-50	V
Collector-Emitter Voltage	V_{CEO}	-50	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	-150	mA
Emitter Current	I_E	150	mA
Collector Power Dissipation	P_C	400	mW
Junction Temperature	T_j	150	℃
Storage Temperature Range	T_{stg}	-55~150	℃

ELECTRICAL CHARACTERISTICS (Ta=25℃)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	V_{CB}=-50V, I_E=0	-	-	-0.1	μA
Emitter Cut-off Current	I_{EBO}	V_{EB}=-5V, I_C=0	-	-	-0.1	μA
DC Current Gain	h_{FE}(Note)	V_{CE}=-6V, I_C=-2mA	70	-	400	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=-100mA, I_B=-10mA	-	-0.1	-0.3	V
Transition Frequency	f_T	V_{CE}=-10V, I_C=-1mA	80	-	-	MHz
Collector Output Capacitance	C_{ob}	V_{CB}=-10V, I_E=0, f=1MHz	-	4.0	7.0	pF
Noise Figure	NF	V_{CE}=-6V, I_C=-0.1mA, f=1kHz, Rg=10kΩ	-	1.0	10	dB

Note : h_{FE} Classification O:70~140 , Y:120~240 , GR:200~400

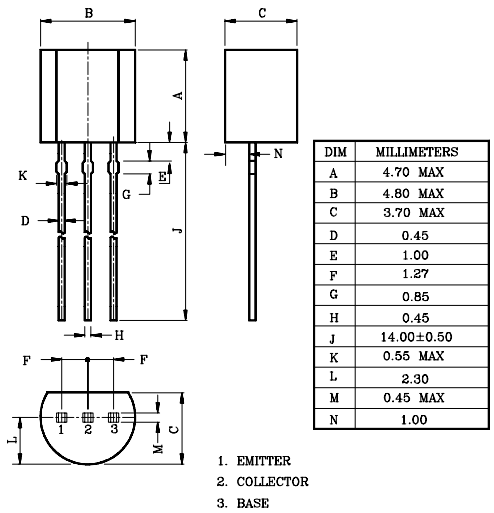
KOREA ELECTRONICS CO.,LTD.

SEMICONDUCTOR
TECHNICAL DATA

KTA1268
EPITAXIAL PLANAR PNP TRANSISTOR

LOW NOISE AMPLIFIER APPLICATION.
HIGH VOLTAGE APPLICATION.

FEATURES
- Low Noise.
  : NF=3dB(Typ.), Rg=100Ω, V_{CE}=-6V, I_C=-100μA, f=1kHz
  : NF=0.5dB(Typ.), Rg=1kΩ, V_{CE}=-6V, I_C=-100μA, f=1kHz.
- High DC Current Gain : h_{FE}=200～700.
- High Voltage : V_{CEO}=-120V.
- Low Pulse Noise. Low 1/f Noise.



DIM	MILLIMETERS
A	4.70 MAX
B	4.80 MAX
C	3.70 MAX
D	0.45
E	1.00
F	1.27
G	0.85
H	0.45
J	14.00±0.50
K	0.55 MAX
L	2.30
M	0.45 MAX
N	1.00

TO-92

MAXIMUM RATINGS (Ta=25℃)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	-120	V
Collector-Emitter Voltage	V_{CEO}	-120	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	-100	mA
Emitter Current	I_E	100	mA
Collector Power Dissipation	P_C	625	mW
Junction Temperature	T_j	150	℃
Storage Temperature Range	T_{stg}	-55～150	℃

ELECTRICAL CHARACTERISTICS (Ta=25℃)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	V_{CB}=-120V, I_E=0	-	-	-100	nA
Emitter Cut-off Current	I_{EBO}	V_{EB}=-5V, I_C=0	-	-	-100	nA
Collector-Emitter Breakdown Voltage	V_{CEO}	I_C=-1mA, I_B=0	-120	-	-	V
DC Current Gain	h_{FE}(Note)	V_{CE}=-6V, I_C=-2mA	200	-	700	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=-10mA, I_B=-1mA	-	-	-0.3	V
Base-Emitter Voltage	V_{BE}	V_{CE}=-6V, I_C=-2mA	-	-0.65	-	V
Transition Frequency	f_T	V_{CE}=-6V, I_C=-1mA	-	100	-	MHz
Collector Output Capacitance	C_{ob}	V_{CB}=-10V, I_E=0, f=1MHz	-	4.0	-	pF
Noise Figure	NF	V_{CE}=-6V, I_C=-100μA f=10Hz, Rg=10kΩ	-	-	6.0	dB
		V_{CE}=-6V, I_C=-100μA, f=1kHz, Rg=10kΩ	-	-	2.0	
		V_{CE}=-6V, I_C=-100μA f=1kHz, Rg=100Ω	-	3.0	-	

Note : h_{FE} Classification GR:200～400, BL:350～700

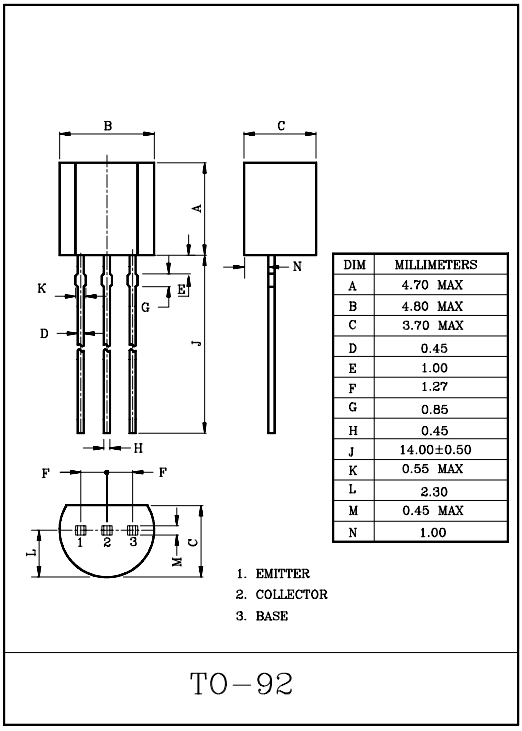
KOREA ELECTRONICS CO.,LTD.

SEMICONDUCTOR
TECHNICAL DATA

KTA1271
EPITAXIAL PLANAR PNP TRANSISTOR

HIGH CURRENT APPLICATION.

FEATURES
- High h_{FE} : h_{FE}=100～320.
- Complementary to KTC3203.



DIM	MILLIMETERS
A	4.70 MAX
B	4.80 MAX
C	3.70 MAX
D	0.45
E	1.00
F	1.27
G	0.85
H	0.45
J	14.00±0.50
K	0.55 MAX
L	2.30
M	0.45 MAX
N	1.00

TO-92

MAXIMUM RATINGS (Ta=25℃)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	-35	V
Collector-Emitter Voltage	V_{CEO}	-30	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	-800	mA
Emitter Current	I_E	800	mA
Collector Power Dissipation	P_C	625	mW
Junction Temperature	T_j	150	℃
Storage Temperature Range	T_{stg}	-55～150	℃

ELECTRICAL CHARACTERISTICS (Ta=25℃)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	V_{CB}=-35V, I_E=0	-	-	-100	nA
Emitter Cut-off Current	I_{EBO}	V_{EB}=-5V, I_C=0	-	-	-100	nA
Collector-Emitter Breakdown Voltage	$V_{(BR)CEO}$	I_C=-10mA, I_B=0	-30	-	-	V
DC Current Gain	h_{FE}(1) (Note)	V_{CE}=-1V, I_C=-100mA	100	-	320	
	h_{FE}(2)	V_{CE}=-1V, I_C=-700mA	35	-	-	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=-500mA, I_B=-20mA	-	-	-0.7	V
Base-Emitter Voltage	V_{BE}	V_{CE}=-1V, I_C=-10mA	-0.5	-	-0.8	V
Transition Frequency	f_T	V_{CE}=-5V, I_C=-10mA	-	120	-	MHz
Collector Output Capacitance	C_{ob}	V_{CB}=-10V, f=1MHz	-	19	-	pF

Note : h_{FE}(1) Classification O:100～200, Y:160～320

KEC

SEMICONDUCTOR
TECHNICAL DATA

KTA1360
TRIPLE DIFFUSED PNP TRANSISTOR

AUDIO FREQUENCY AMPLIFIER APPLICATION.

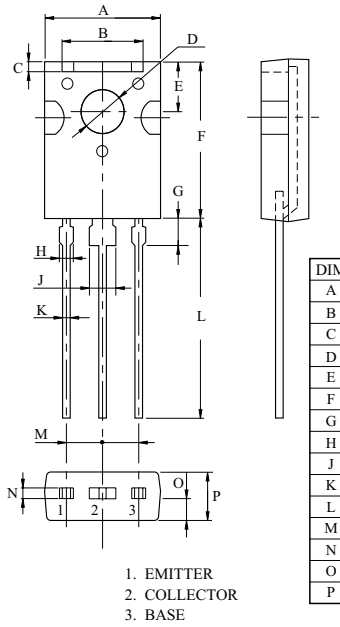
FEATURES

· High Voltage : V_{CEO}=-150V.

· Low Output Capacitance : C_{ob}=5.0pF(Max.).

· High Transition Frequency : f_T=120MHz(Typ.)

· Complementary to KTC3423.



DIM	MILLIMETERS
A	8.3 MAX
B	5.8
C	0.7
D	Φ3.2±0.1
E	3.5
F	11.0±0.3
G	2.9 MAX
H	1.0 MAX
J	1.9 MAX
K	0.75±0.15
L	15.50±0.5
M	2.3±0.1
N	0.65±0.15
O	1.6
P	3.4 MAX

TO-126

MAXIMUM RATING (Ta=25℃)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	-150	V
Collector-Emitter Voltage	V_{CEO}	-150	V
Emitter-Base Voltage	V_{EBO}	-5	V
Collector Current	I_C	-50	mA
Emitter Current	I_E	50	mA
Collector Power Dissipation	P_C	1.5	W
Junction Temperature	T_j	150	℃
Storage Temperature Range	T_{stg}	-55 ~ 150	℃

ELECTRICAL CHARACTERISTICS (Ta=25℃)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	V_{CB}=-150V, I_E=0	-	-	-0.1	μA
Emitter Cut-off Current	I_{EBO}	V_{EB}=-5V, I_C=0	-	-	-0.1	μA
DC Current Gain	h_{FE}(Note)	V_{CE}=-5V, I_C=-10mA	70	-	240	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=-10mA, I_B=-1mA	-	-	-0.8	V
Base-Emitter Voltage	V_{BE}	V_{CE}=-5V, I_C=-30mA	-	-	-0.9	V
Transition Frequency	f_T	V_{CE}=-30V, I_C=-10mA	-	120	-	MHz
Collector Output Capacitance	C_{ob}	V_{CB}=-10V, I_E=0, f=1MHz	-	4.0	5.0	pF

Note : h_{FE} Classification O:70 ~ 140, Y:120 ~ 240

KEC

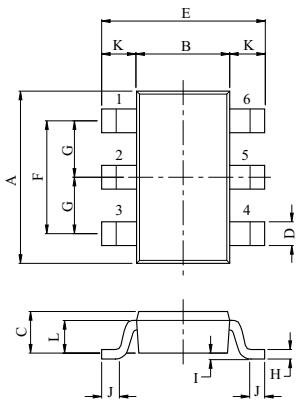
SEMICONDUCTOR
TECHNICAL DATA

KTC812T
EPITAXIAL PLANAR NPN TRANSISTOR

FOR MUTING AND SWITCHING APPLICATION.

FEATURES

- High Emitter-Base Voltage : V_{EBO}=25V(Min.)
- High Reverse h_{FE}
  : Reverse h_{FE}=150(Typ.) (V_{CE}=-2V, I_C=-4mA)
- Low on Resistance : R_{ON}=1Ω(Typ.), (I_B=5mA)



DIM	MILLIMETERS
A	2.9±0.2
B	1.6+0.2/-0.1
C	0.70±0.05
D	0.4±0.1
E	2.8+0.2/-0.3
F	1.9±0.2
G	0.95
H	0.16±0.05
I	0.00-0.10
J	0.25+0.25/-0.15
K	0.60
L	0.55

1. Q_1 EMITTER
2. Q_1 BASE
3. Q_2 COLLECTOR
4. Q_2 EMITTER
5. Q_2 BASE
6. Q_1 COLLECTOR

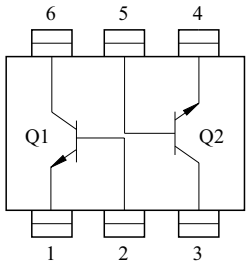
TS6

MAXIMUM RATING (Ta=25℃)

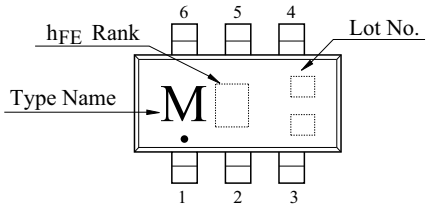
CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	50	V
Collector-Emitter Voltage	V_{CEO}	20	V
Emitter-Base Voltage	V_{EBO}	25	V
Collector Current	I_C	300	mA
Base Current	I_B	60	mA
Collector Power Dissipation	P_C *	0.9	mW
Junction Temperature	T_j	150	℃
Storage Temperature Range	T_{stg}	-55 ~ 150	℃

* Package mounted on a ceramic board (600㎟ × 0.8㎜)

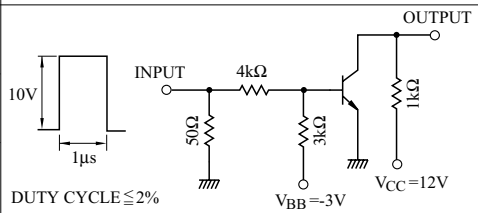
EQUIVALENT CIRCUIT (TOP VIEW)



Marking



ELECTRICAL CHARACTERISTICS (Ta=25℃)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	V_{CB}=50V, I_E=0	-	-	0.1	μA
Emitter Cut-off Current		I_{EBO}	V_{EB}=25V, I_C=0	-	-	0.1	μA
DC Current Gain		h_{FE}	V_{CE}=2V, I_C=4mA	350	-	1200	
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	I_C=30mA, I_B=3mA	-	0.042	0.3	V
Base-Emitter Voltage		V_{BE}	V_{CE}=2V, I_C=4mA	-	0.61	-	V
Transition Frequency		f_T	V_{CE}=6V, I_C=4mA	-	30	-	MHz
Collector Output Capacitance		C_{ob}	V_{CB}=10V, I_E=0, f=1MHz	-	4.8	7	pF
Switching Time	Turn-on Time	t_{on}		-	160	-	nS
	Storage Time	t_{stg}		-	500	-	
	Fall Time	t_f		-	130	-	

Note : h_{FE} Classification B: 350 ~ 1200

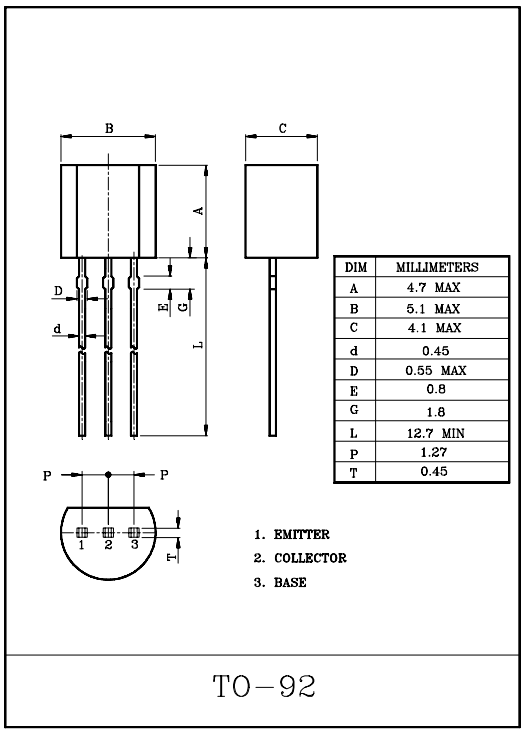
KOREA ELECTRONICS CO.,LTD.

SEMICONDUCTOR
TECHNICAL DATA

KTC2874
SILICON NPN TRANSISTOR
EPITAXIAL PLANAR TYPE

FOR MUTING AND SWITCHING APPLICATION.

FEATURES
- High Emitter-Base Voltage : V_{EBO}=25V(Min.)
- High Reverse h_{FE}
  : Reverse h_{FE}=150(Typ.) (V_{CE}=-2V, I_C=-2mA)
- Low on Resistance : R_{ON}=1Ω(Typ.), (I_B=5mA)



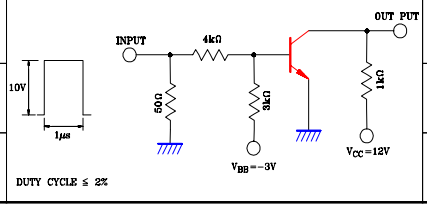
DIM	MILLIMETERS
A	4.7 MAX
B	5.1 MAX
C	4.1 MAX
d	0.45
D	0.55 MAX
E	0.8
G	1.8
L	12.7 MIN
P	1.27
T	0.45

TO-92

MAXIMUM RATINGS (Ta=25℃)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	50	V
Collector-Emitter Voltage	V_{CEO}	20	V
Emitter-Base Voltage	V_{EBO}	25	V
Collector Current	I_C	300	mA
Base Current	I_B	60	mA
Collector Power Dissipation	P_C	400	mW
Junction Temperature	T_j	125	℃
Storage Temperature Range	T_{stg}	-55~125	℃

ELECTRICAL CHARACTERISTICS (Ta=25℃)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current		I_{CBO}	V_{CB}=50V, I_E=0	-	-	0.1	μA
Emitter Cut-off Current		I_{EBO}	V_{EB}=25V, I_C=0	-	-	0.1	μA
DC Current Gain (Note)		h_{FE}	V_{CE}=2V, I_C=4mA	200	-	1200	
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	I_C=30mA, I_B=3mA	-	0.042	0.3	V
Base-Emitter Voltage		V_{BE}	V_{CE}=2V, I_C=4mA	-	0.61	-	V
Transition Frequency		f_T	V_{CE}=6V, I_C=4mA	-	30	-	MHz
Collector Output Capacitance		C_{ob}	V_{CB}=10V, I_E=0, f=1MHz	-	4.8	7	pF
Switching Time	Turn-on Time	t_{ON}		-	160	-	nS
	Storage Time	t_{stg}		-	500	-	
	Fall Time	t_f		-	130	-	

Note : h_{FE} Classification A: 200~700 , B: 350~1200

KOREA ELECTRONICS CO.,LTD.

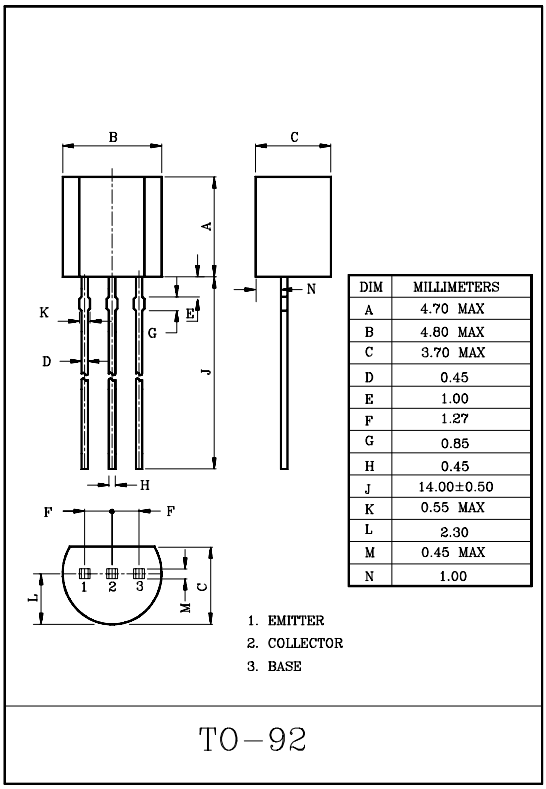
SEMICONDUCTOR
TECHNICAL DATA

KTC3198
EPITAXIAL PLANAR NPN TRANSISTOR

GENERAL PURPOSE APPLICATION.
SWITCHING APPLICATION.

FEATURES

- Excellent h_{FE} Linearity
  : $h_{FE}(2)$=100(Typ.) at V_{CE}=6V, I_C=150mA.
  : $h_{FE}(I_C$=0.1mA)/$h_{FE}(I_C$=2mA)=0.95(Typ.)
- Low Noise : NF=1dB(Typ.) at f=1kHz.
- Complementary to KTA1266 (O,Y,GR class).



DIM	MILLIMETERS
A	4.70 MAX
B	4.80 MAX
C	3.70 MAX
D	0.45
E	1.00
F	1.27
G	0.85
H	0.45
J	14.00±0.50
K	0.55 MAX
L	2.30
M	0.45 MAX
N	1.00

TO-92

MAXIMUM RATINGS (Ta=25℃)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	60	V
Collector-Emitter Voltage	V_{CEO}	50	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	I_C	150	mA
Base Current	I_B	50	mA
Collector Power Dissipation	P_C	625	mW
Junction Temperature	T_j	150	℃
Storage Temperature Range	T_{stg}	-55~150	℃

ELECTRICAL CHARACTERISTICS (Ta=25℃)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	V_{CB}=60V, I_E=0	-	-	0.1	μA
Emitter Cut-off Current	I_{EBO}	V_{EB}=5V, I_C=0	-	-	0.1	μA
DC Current Gain	$h_{FE}(1)$ (Note)	V_{CE}=6V, I_C=2mA	70	-	700	
	$h_{FE}(2)$	V_{CE}=6V, I_C=150mA	25	100	-	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=100mA, I_B=10mA	-	0.1	0.25	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=100mA, I_B=10mA	-	-	1.0	V
Transition Frequency	f_T	V_{CE}=10V, I_E=-1mA	80	-	-	MHz
Collector Output Capacitance	C_{ob}	V_{CB}=10V, I_E=0, f=1MHz	-	2.0	3.5	pF
Base Intrinsic Resistance	rbb′	V_{CB}=10V, I_C=-1mA, f=30MHz	-	50	-	Ω
Noise Figure	NF	V_{CE}=6V, I_C=0.1mA, Rg=10kΩ, f=1kHz	-	1.0	10	dB

Note : h_{FE} Classification O:70~140, Y:120~240, GR:200~400, BL:300~700

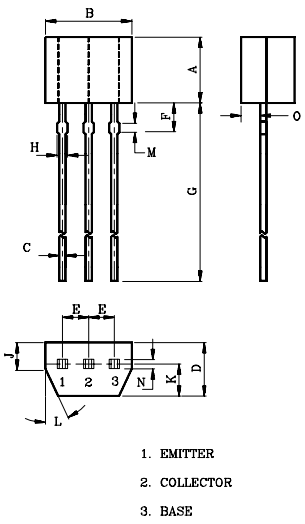
KOREA ELECTRONICS CO.,LTD.

SEMICONDUCTOR
TECHNICAL DATA

KTC3199
EPITAXIAL PLANAR NPN TRANSISTOR

GENERAL PURPOSE APPLICATION.
SWITCHING APPLICATION.

FEATURES
- High DC Current Gain : h_{FE}=70～700.
- Excellent h_{FE} Linearity
  : h_{FE}(0.1mA)/h_{FE}(2mA)=0.95(Typ.).
- Low Noise : NF=1dB(Typ.), 10dB(Max.).
- Complementary to KTA1267.



DIM	MILLIMETERS
A	3.20 MAX
B	4.30 MAX
C	0.55 MAX
D	2.40±0.15
E	1.27
F	2.30
G	14.00±0.50
H	0.60 MAX
J	1.05
K	1.45
L	25°
M	0.80
N	0.55 MAX
O	0.75

1. EMITTER
2. COLLECTOR
3. BASE

TO-92M

MAXIMUM RATINGS (Ta=25℃)

CHARACTERISTIC	SYMBOL	RATING	UNIT
Collector-Base Voltage	V_{CBO}	50	V
Collector-Emitter Voltage	V_{CEO}	50	V
Emitter-Base Voltage	V_{EBO}	5	V
Collector Current	I_C	150	mA
Emitter Current	I_E	-150	mA
Collector Power Dissipation	P_C	400	mW
Junction Temperature	T_j	150	℃
Storage Temperature Range	T_{stg}	-55～150	℃

ELECTRICAL CHARACTERISTICS (Ta=25℃)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	V_{CB}=50V, I_E=0	-	-	0.1	μA
Emitter Cut-off Current	I_{EBO}	V_{EB}=5V, I_C=0	-	-	0.1	μA
DC Current Gain	h_{FE}(Note)	V_{CE}=6V, I_C=2mA	70	-	700	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=100mA, I_B=10mA	-	0.1	0.25	V
Transition Frequency	f_T	V_{CE}=10V, I_C=1mA	80	-	-	MHz
Collector Output Capacitance	C_{ob}	V_{CB}=10V, I_E=0, f=1MHz	-	2.0	3.5	pF
Noise Figure	NF	V_{CE}=6V, I_C=0.1mA Rg=10kΩ, f=1kHz	-	1.0	10	dB

Note) h_{FE} Classification O : 70～140, Y : 120～240, GR : 200～400, BL : 300～700

KEC

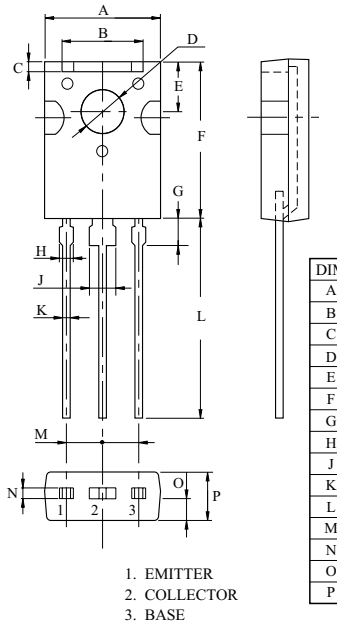
SEMICONDUCTOR
TECHNICAL DATA

KTC3423
TRIPLE DIFFUSED NPN TRANSISTOR

AUDIO FREQUENCY AMPLIFIER APPLICATION.

FEATURES

· High Breakdown Voltage : V_{CEO}=150V(Min.).
· Low Output Capacitance : C_{ob}=5.0pF(Max.).
· High Transition Frequency : f_T=120MHz(Typ.).
· Complementary to KTA1360.



DIM	MILLIMETERS
A	8.3 MAX
B	5.8
C	0.7
D	Φ3.2±0.1
E	3.5
F	11.0±0.3
G	2.9 MAX
H	1.0 MAX
J	1.9 MAX
K	0.75±0.15
L	15.50±0.5
M	2.3±0.1
N	0.65±0.15
O	1.6
P	3.4 MAX

1. EMITTER
2. COLLECTOR
3. BASE

TO-126

MAXIMUM RATING (Ta=25℃)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		V_{CBO}	150	V
Collector-Emitter Voltage		V_{CEO}	150	V
Emitter-Base Voltage		V_{EBO}	5	V
Collector Current		I_C	50	mA
Emitter Current		I_B	5	mA
Collector Power Dissipation	Ta=25℃	P_C	1.5	W
	Tc=25℃		5	
Junction Temperature		T_j	150	℃
Storage Temperature Range		T_{stg}	-55 ~ 150	℃

ELECTRICAL CHARACTERISTICS (Ta=25℃)

CHARACTERISTIC	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut-off Current	I_{CBO}	V_{CB}=150V, I_E=0	-	-	0.1	μA
Emitter Cut-off Current	I_{EBO}	V_{EB}=5V, I_C=0	-	-	0.1	μA
DC Current Gain	h_{FE}(Note)	V_{CE}=5V, I_C=10mA	70	-	240	
Collector-Emitter Saturation Voltage	$V_{CE(sat)}$	I_C=10mA, I_B=1mA	-	-	0.5	V
Base-Emitter Saturation Voltage	$V_{BE(sat)}$	I_C=10mA, I_B=1mA	-	-	1.0	V
Transition Frequency	f_T	V_{CE}=30V, I_C=10mA	-	120	-	MHz
Collector Output Capacitance	C_{ob}	V_{CB}=10V, I_E=0, f=1MHz	-	3.5	5.0	pF

Note : h_{FE} Classification O:70 ~ 140, Y:120 ~ 240

KOREA ELECTRONICS CO.,LTD.

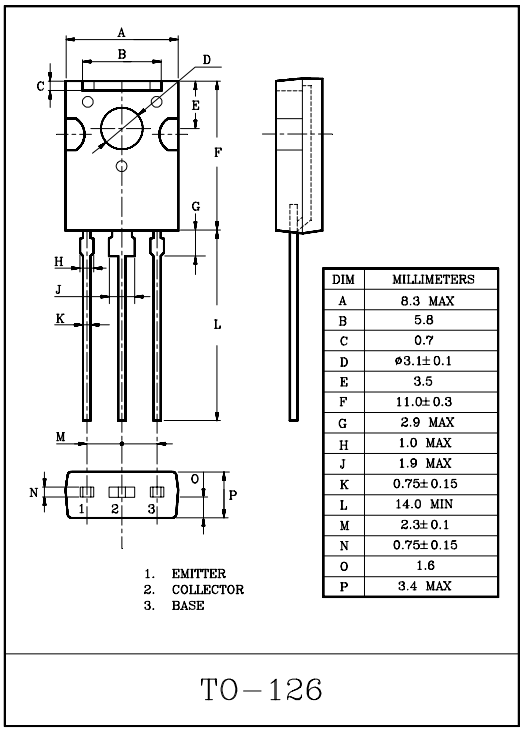
SEMICONDUCTOR
TECHNICAL DATA

KTD600K
EPITAXIAL PLANAR NPN TRANSISTOR

LOW FREQUENCY POWER AMP,
MEDIUM SPEED SWITCHING APPLICATIONS

FEATURES

- High breakdown voltage V_{CEO} 120V, high current 1A.
- Low saturation voltage and good linearity of h_{FE}.



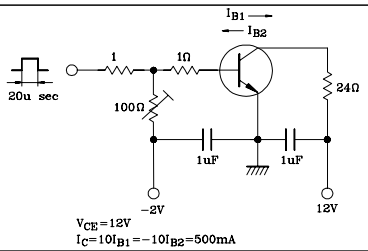
DIM	MILLIMETERS
A	8.3 MAX
B	5.8
C	0.7
D	ø3.1±0.1
E	3.5
F	11.0±0.3
G	2.9 MAX
H	1.0 MAX
J	1.9 MAX
K	0.75±0.15
L	14.0 MIN
M	2.3±0.1
N	0.75±0.15
O	1.6
P	3.4 MAX

TO-126

MAXIMUM RATINGS (Ta=25℃)

CHARACTERISTIC		SYMBOL	RATING	UNIT
Collector-Base Voltage		V_{CBO}	120	V
Collector-Emitter Voltage		V_{CEO}	120	V
Emitter-Base Voltage		V_{EBO}	5	V
Collector Current		I_C	1	A
		I_{CP}	2	
Collector Power Dissipation	Ta=25℃	P_C	1.5	W
	Tc=25℃		8	
Junction Temperature		T_j	150	℃
Storage Temperature Range		T_{stg}	-55~150	℃

ELECTRICAL CHARACTERISTICS (Ta=25℃)

CHARACTERISTIC		SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Collector Cut of Current		I_{CBO}	V_{CB}=50V, I_E=0	-	-	1	μA
Emitter Cut of Current		I_{EBO}	V_{EB}=4V, I_C=0	-	-	1	μA
Collector-Base Breakdown Voltage		$V_{(BR)CBO}$	I_C=10μA	120	-	-	V
Collector-Emitter Breakdown Voltage		$V_{(BR)CEO}$	I_C=1mA	120	-	-	V
Emitter-Base Breakdown Voltage		$V_{(BR)EBO}$	I_E=10μA	5	-	-	V
DC Current Gain		h_{FE}(1)Note	V_{CE}=5V, I_C=50mA	100	-	320	
		h_{FE}(2)	V_{CE}=5V, I_C=500mA	20	-	-	
Gain Bandwidth Product		f_T	V_{CE}=10V, I_C=50mA	-	130	-	MHz
Output Capacitance		C_{ob}	V_{CB}=10V, f=1MHz	-	20	-	pF
Collector-Emitter Saturation Voltage		$V_{CE(sat)}$	I_C=500mA, I_B=50mA	-	0.15	0.4	V
Base-Emitter Saturation Voltage		$V_{BE(sat)}$	I_C=500mA, I_B=50mA	-	0.85	1.2	V
Switching Time	Turn-on Time	t_{on}		-	100	-	nS
	Turn-off Time	t_{off}		-	500	-	
	Storage Time	t_{stg}		-	700	-	

(Note) : h_{FE}(1) Classification Y:100~200, GR:160~320

NEC

MOS FIELD EFFECT TRANSISTOR

μPA672T

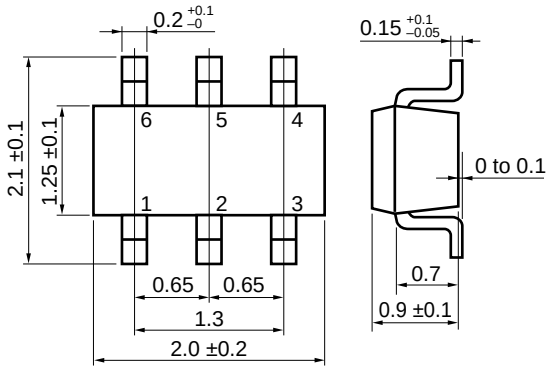
N-CHANNEL MOS FET ARRAY FOR SWITCHING

The μPA672T is a super-mini-mold device provided with two MOS FET elements. It achieves high-density mounting and saves mounting costs.

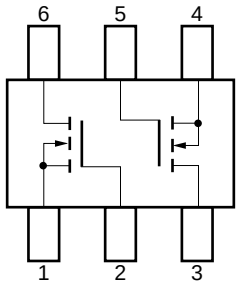
FEATURES

- Two MOS FET circuits in package the same size as SC-70
- Automatic mounting supported

PACKAGE DIMENSIONS (in millimeters)



PIN CONNECTION



1. Source 1 (S1)
2. Gate 1 (G1)
3. Drain 2 (D2)
4. Source 2 (S2)
5. Gate 2 (G2)
6. Drain 1 (D1)

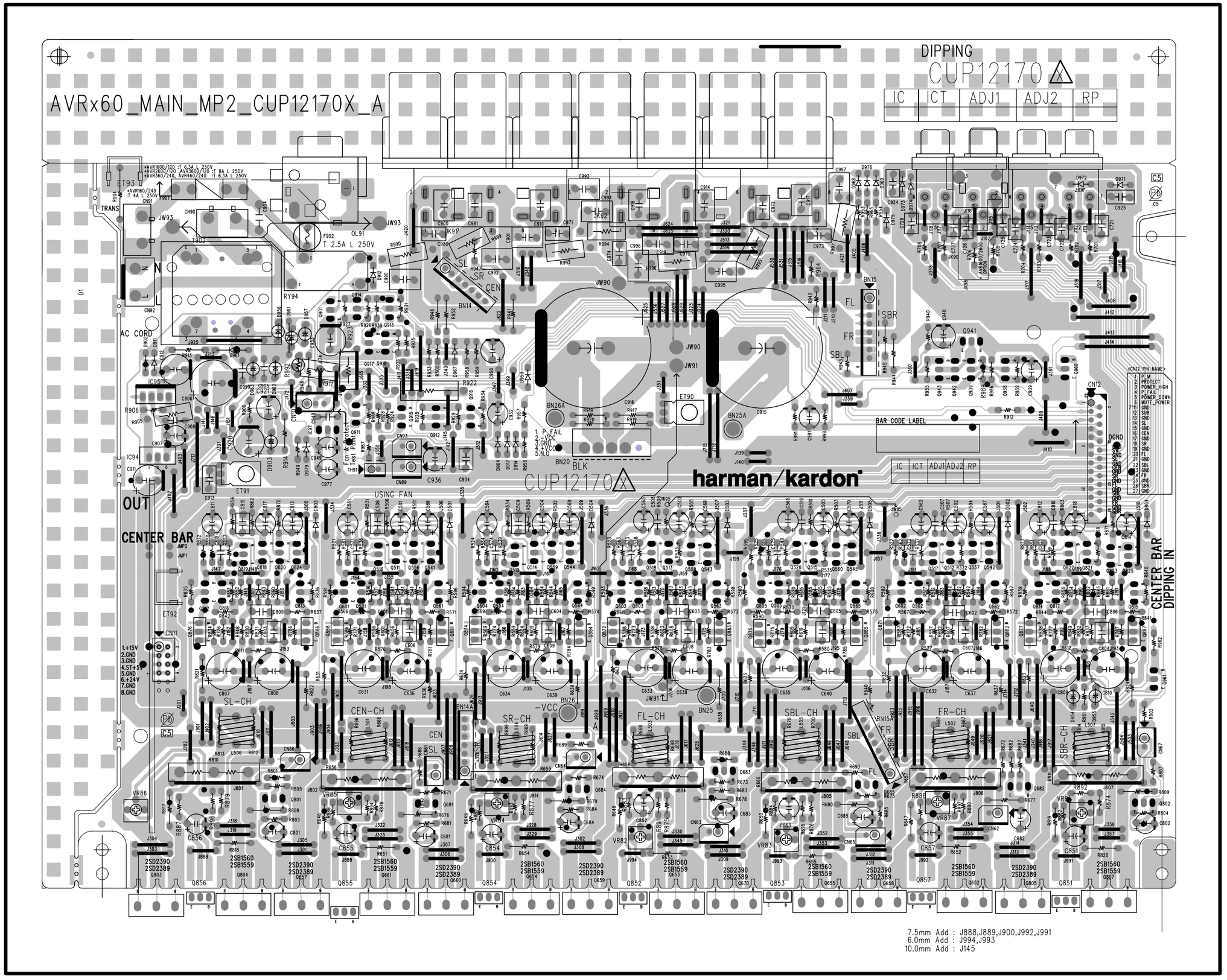
Marking: MA

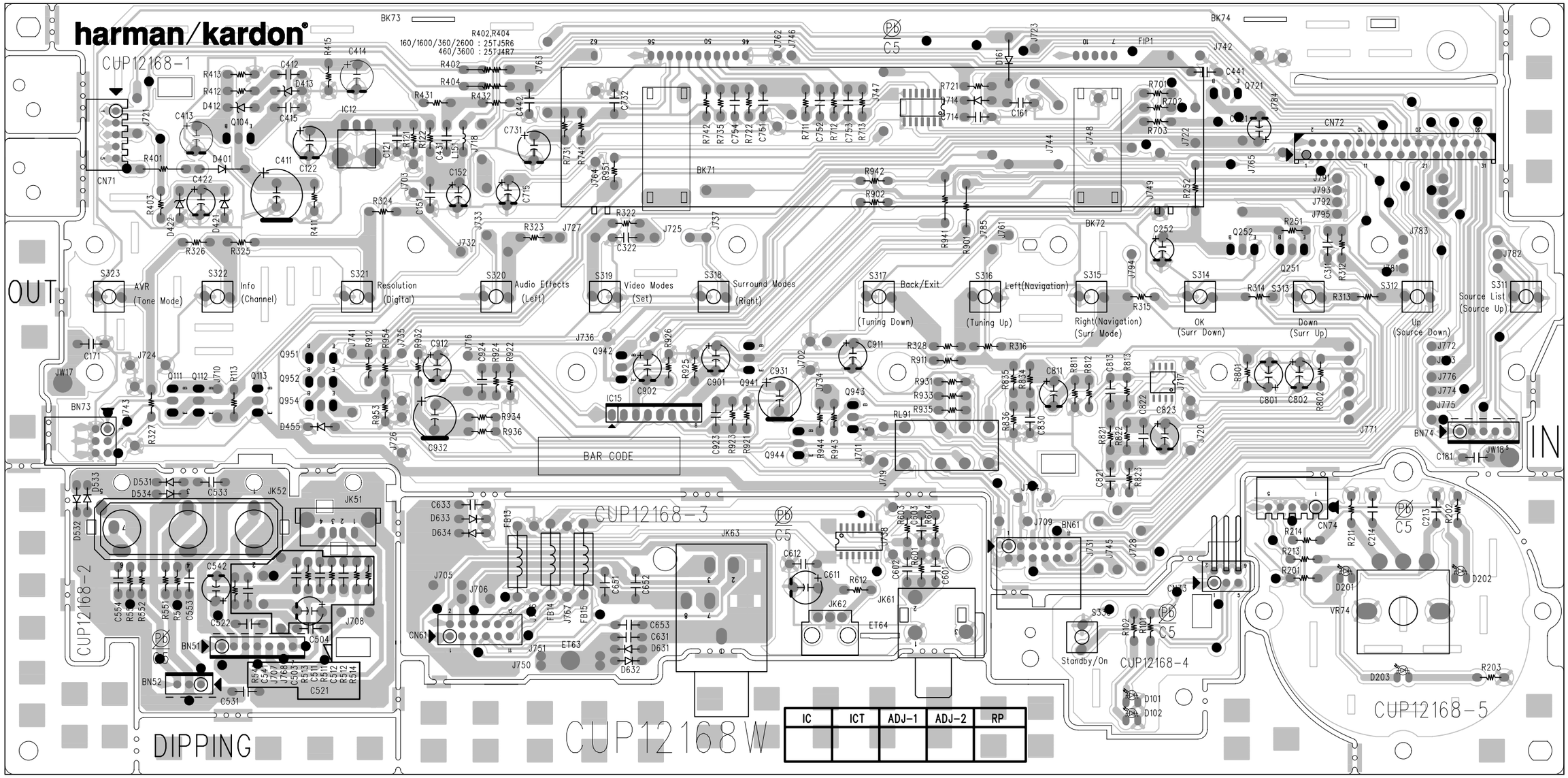
ABSOLUTE MAXIMUM RATINGS (T_A = 25 °C)

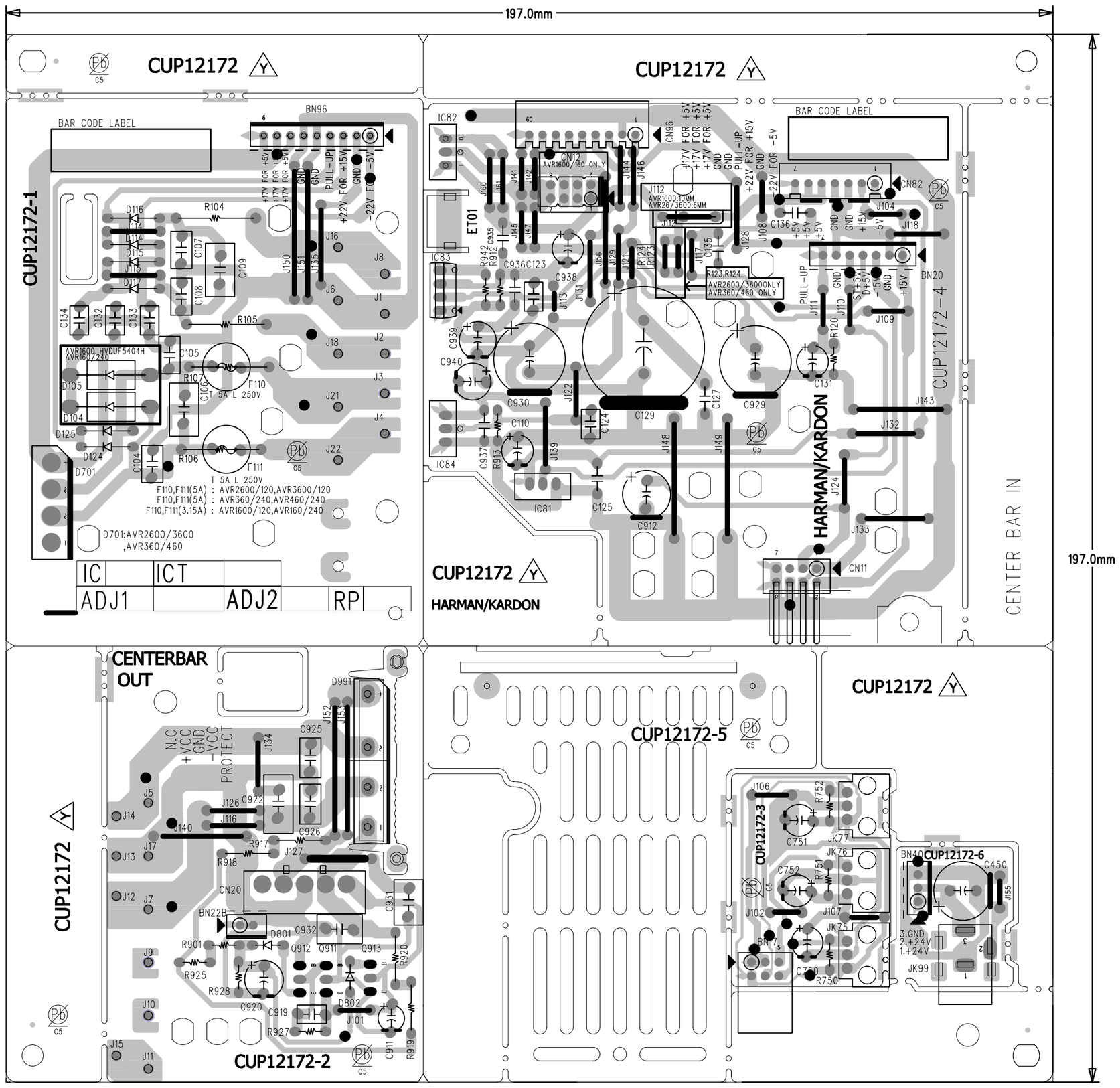
PARAMETER	SYMBOL	TEST CONDITIONS	RATINGS	UNIT
Drain to Source Voltage	V_{DSS}		50	V
Gate to Source Voltage	V_{GSS}		±7.0	V
Drain Current (DC)	$I_{D(DC)}$		100	mA
Drain Current (pulse)	$I_{D(pulse)}$	PW ≤ 10 ms, Duty Cycle ≤ 50 %	200	mA
Total Power Dissipation	P_T		200 (Total)	mW
Channel Temperature	T_{ch}		150	°C
Storage Temperature	T_{stg}		–55 to +150	°C

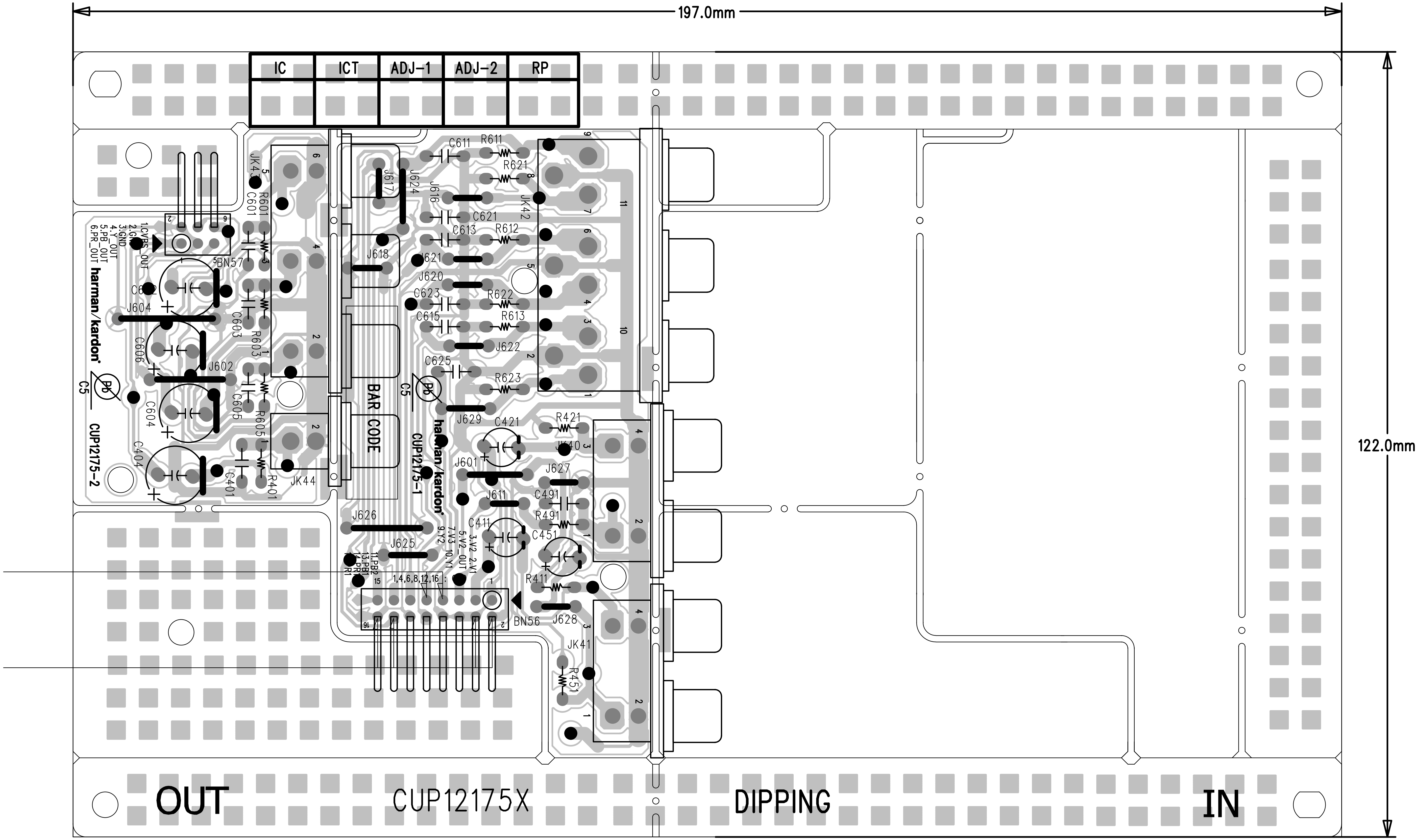
Document No. G11259EJ1V0DS00 (1st edition)
Date Published June 1996 P
Printed in Japan

 © NEC Corporation 1996

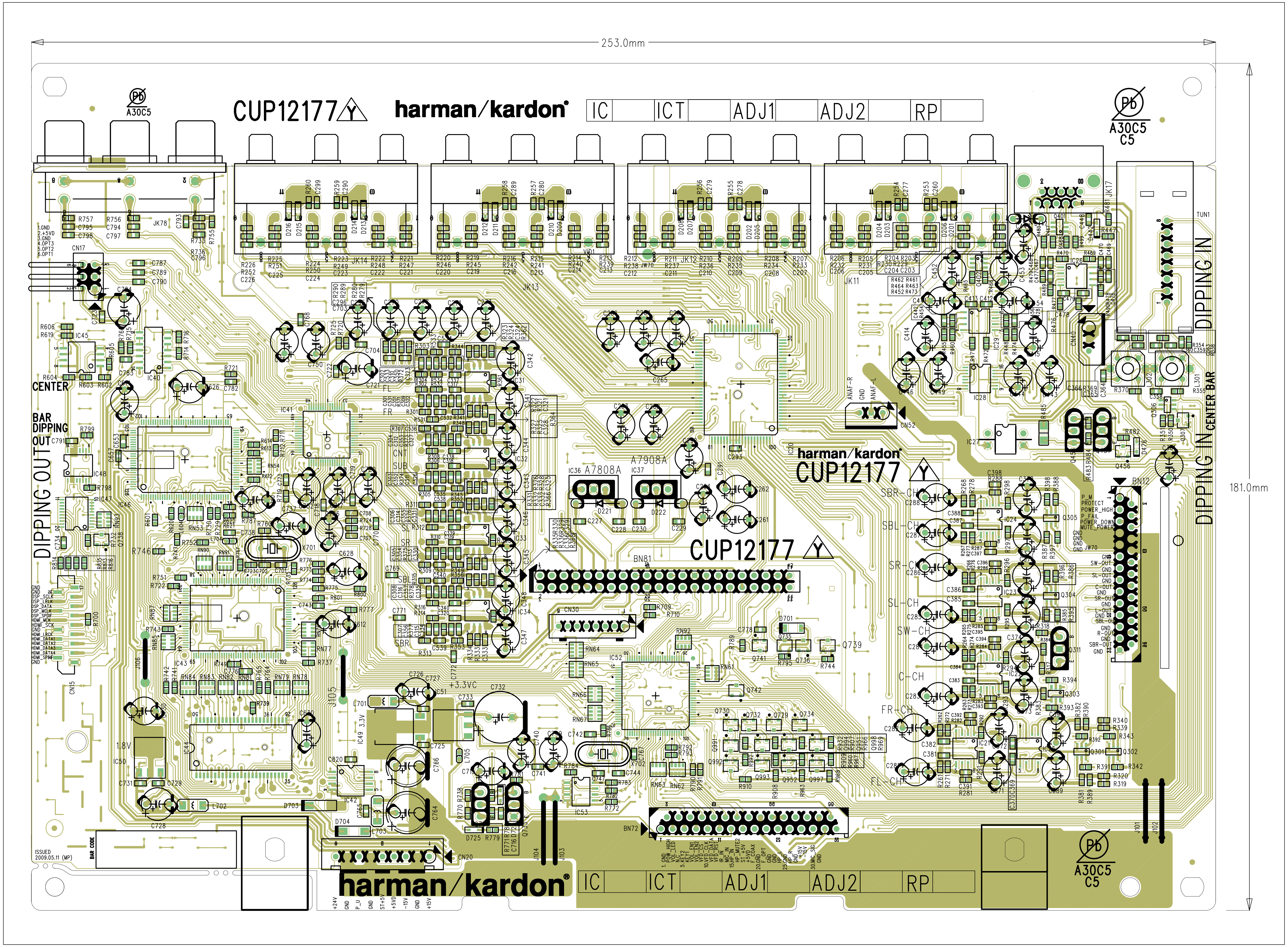

AVRx60_MAIN_MP2_CUP12170X_A
DIPPING
CUP12170
IC | ICT | ADJ1 | ADJ2 | RP
harman/kardon
CUP12170
IC | ICT | ADJ1 | ADJ2 | RP
AC CORD
TRANS
OUT
CENTER BAR
USING FAN
BAR CODE LABEL
CENTER BAR
DIPPING IN
SL-CH
CEN-CH
SR-CH
FL-CH
SBL-CH
FR-CH
SBR-CH
CEN
FL
FR
SBL
SBR
-VCC
7.5mm Add : J888,J889,J900,J992,J991
6.0mm Add : J994,J993
10.0mm Add : J145


harman/kardon
CUP12168-1
BK73
BK74
R402,R404
160/1600/360/2600 : 25TJ5R6
460/3600 : 25TJ4R7
CN71
CN72
BK71
BK72
S323 AVR (Tone Mode)
S322 Info (Channel)
S321 Resolution (Digital)
S320 Audio Effects (Left)
S319 Video Modes (Set)
S318 Surround Modes (Right)
S317 Back/Exit (Tuning Down)
S316 Left(Navigation) (Tuning Up)
S315 Right(Navigation) (Surr Mode)
S314 OK (Surr Down)
S313 Down (Surr Up)
S312 Up (Source Down)
S311 Source List (Source Up)
OUT
IN
BAR CODE
CUP12168-2
CUP12168-3
CUP12168-4
CUP12168-5
CUP12168W
DIPPING
IC
ICT
ADJ-1
ADJ-2
RP

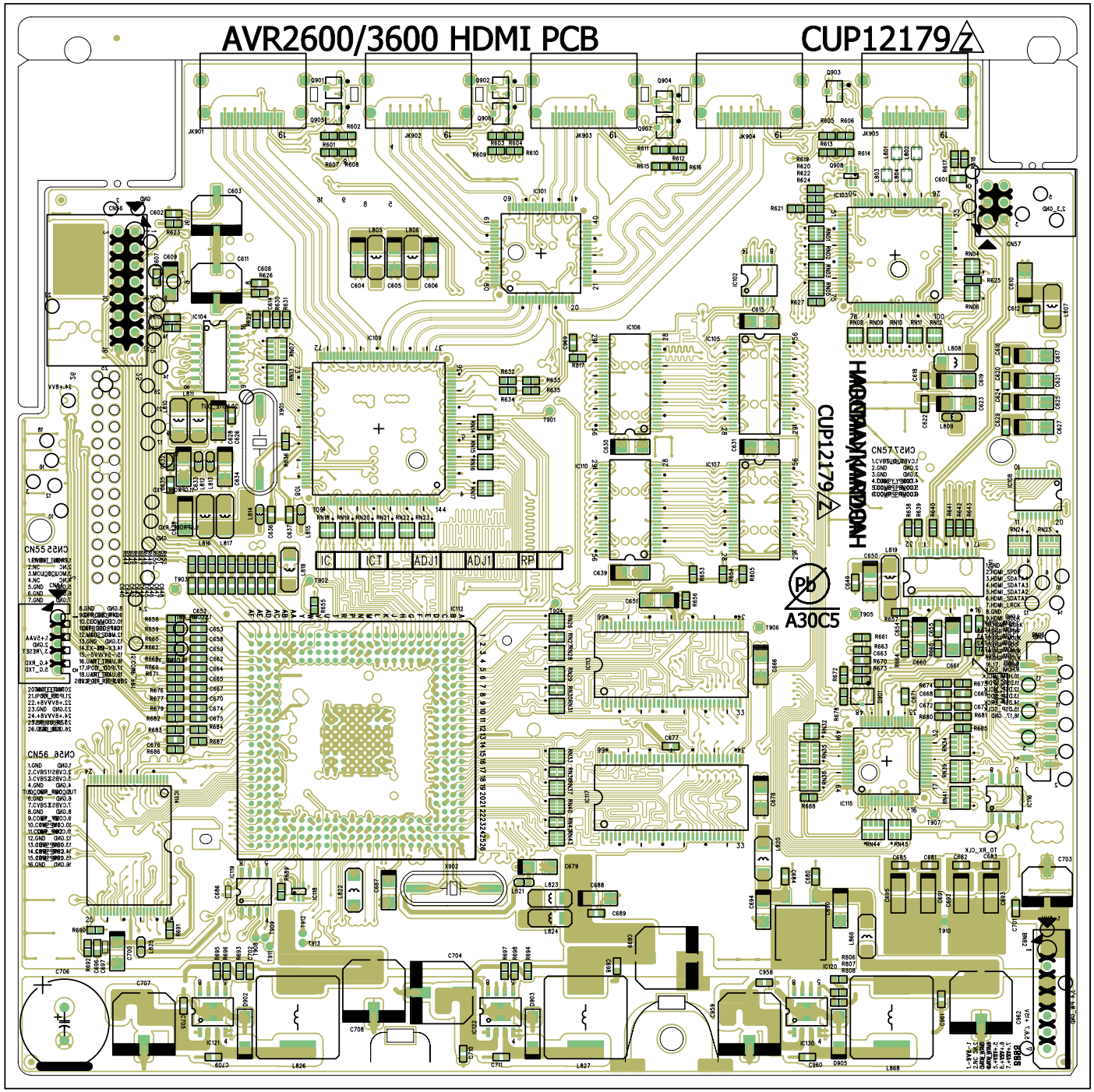

197.0mm
CUP12172
CUP12172-1
BAR CODE LABEL
BN96
CN12
AVR1600/160 ONLY
J112
AVR1600:10MM
AVR26/3600:6MM
R123,R124:
AVR2600/3600ONLY
AVR360/460 ONLY
CN82
BN20
CUP12172-4
CN11
HARMAN/KARDON
CENTER BAR IN
CENTERBAR OUT
CUP12172-2
CUP12172-5
CUP12172-3
CUP12172-6
F110
T 5A L 250V
F111
T 5A L 250V
F110,F111(5A) : AVR2600/120,AVR3600/120
F110,F111(5A) : AVR360/240,AVR460/240
F110,F111(3.15A) : AVR1600/120,AVR160/240
D701:AVR2600/3600
,AVR360/460
IC ICT
ADJ1 ADJ2 RP
ET01
IC81
IC82
IC83
IC84
PROTECT
N.C
+VCC
GND
-VCC

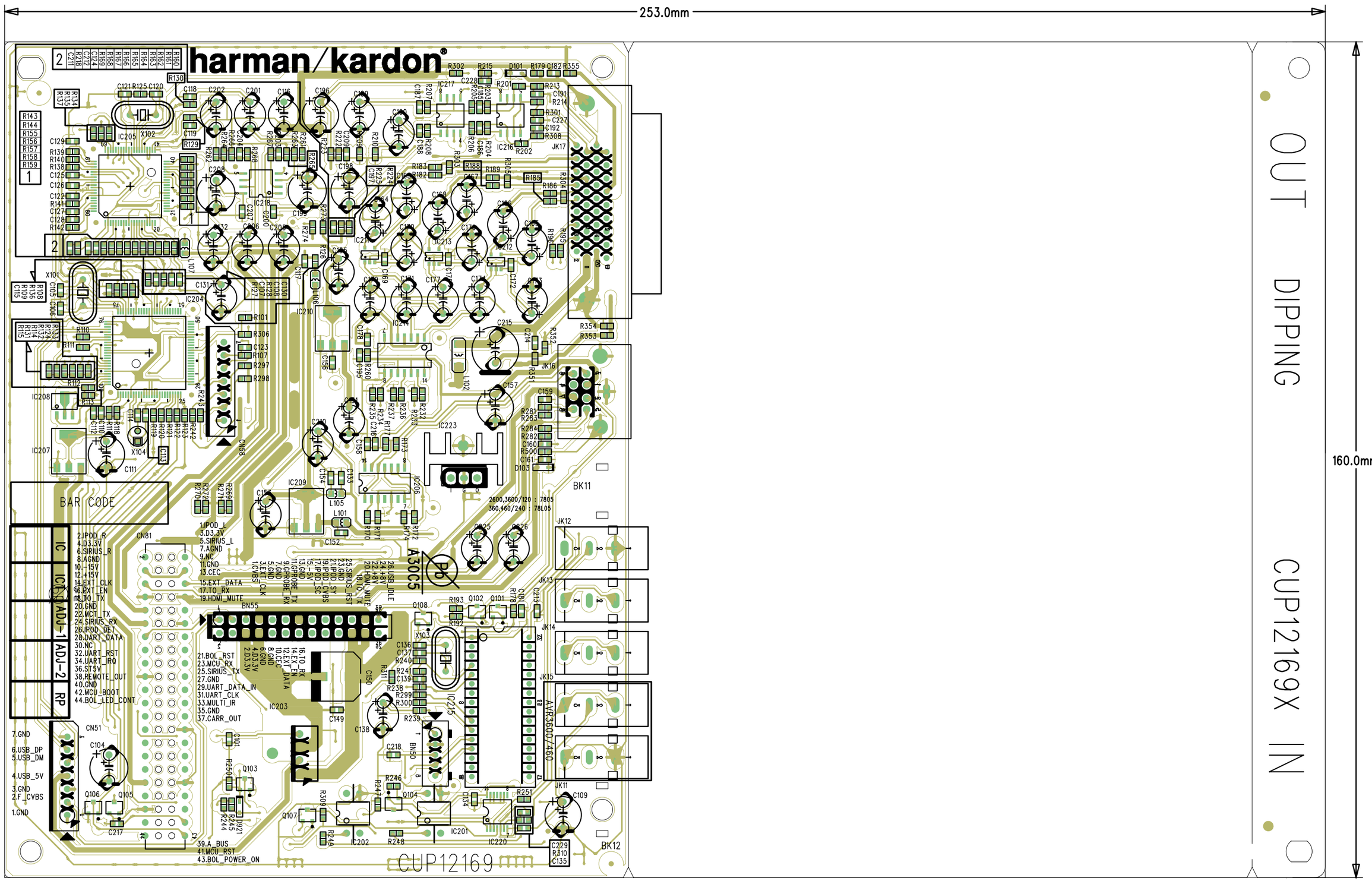


AVR360_VIDEO_MP_0510_A_ - Fri Jun 05 23:38:42 2009



AVR360 INPUT_0511_CAM.p - Fri Jun 05 23:45:06 2009


AVR2600/3600 HDMI PCB
CUP12179/Z
CUP12179/Z
A30C5


253.0mm
160.0mm
OUT DIPPING
CUP12169X IN
harman/kardon
CUP12169
BAR CODE
A30C5
AVR3600/460
2600,3600/120 : 7805
360,460/240 : 78L05
IC ADJ-1 ADJ-2 RP
1.IPOD_L
3.D3.3V
5.SIRIUS_L
7.AGND
9.NC
11.GND
13.CEC
15.EXT_DATA
17.TO_RX
19.HDMI_MUTE
1.GND
2.F_CVBS
3.GND
4.USB_5V
5.USB_DM
6.USB_DP
7.GND
39.A_BUS
41.MCU_RST
43.BOL_POWER_ON
21.BOL_RST
23.MCU_RX
25.SIRIUS_TX
27.GND
29.UART_DATA_IN
31.UART_CLK
33.MULTI_IR
35.GND
37.CARR_OUT
2.IPOD_R
4.D3.3V
6.SIRIUS_R
8.AGND
10.+15V
12.+15V
14.EXT_CLK
16.EXT_EN
18.TO_TX
20.GND
22.MCT_TX
24.SIRIUS_RX
26.IPOD_DET
28.UART_DATA
30.NC
32.UART_RST
34.UART_IRQ
36.ST5V
38.REMOTE_OUT
40.GND
42.MCU_BOOT
44.BOL_LED_CONT


AVR2600, AVR3600, AVR360/230 & AVR460/230 BLOCK DIAGRAM
8-CHANNEL ELECTRONIC VOLUME WITH INPUT SELECTOR
NJW1197CF (AVR1600 & AVR160)
NJW1298FU1 (AVR2600, AVR3600, AVR360 & AVR460))
TO CODEC IC
All Models have Tuner Module.
TUNER MODULE
TUNER L/R
TUNER MUTE
TUNER CONT. SCL, SDA CE, RST & TUNED
DATA
CLOCK
* OPTION * AVR3600 & AVR460
A-BUS OUT
RJ45 JACK
MULTI_OUT
NJW1159M
MULTI & A-BUS MUTE
8 CHANNEL INPUT
FL/R
SL/R
SBL/R
CEN/SUB
TONE
ATT
8CH PRE-OUT (AVR3600 & AVR460)
PRE AMP
FRONT L
FRONT R
SURR L
SURR R
CEN
SUBWOOFER (All Models)
SBL/MULTI L
SBR/MULTI R
FUNC. MUTE
ANALOG5 IN Or DVD IN
ANALOG4 IN Or VIDEO1 IN
ANALOG4 OUT Or VIDEO1 OUT
ANALOG3 IN Or VIDEO2 IN
ANALOG2 IN Or TAPE IN
ANALOG2 OUT Or TAPE OUT
ANALOG 1 IN Or CD IN
ANALOG FRONT IN Or VIDEO3 IN
TUNER IN
Sirius IN
STEREO IN
IPod IN
MIC IN
MAIN AMP
P-AMP +29dB
Temp. Sensor
TEMP I/F
HEAT2
DC/OVER CURRENT
SENS
PROTECT
POWER MUTE
HP_AMP
MIC_AMP
HP_IN
H_PHONE OUT or MIC_INPUT
FL
FR
SBL/ZONE2 LEFT
SBR/ZONE2 RIGHT
SL
SR
CEN
* OPTION * (AVR2600 & AVR360) (AVR3600 & AVR460)
TO USB IPOD PART +8V
TO HDMI PART +1.8V, +3.3V
REGULATOR IC (+5V)
DC DC CIRCUITS
TO INPUT PART +5VD
TO INPUT PART PULL UP FOR MUTE
TO HDMI, VIDEO & USB IPOD PART -5VD
REGULATOR IC (-5V)
TO INPUT & USB iPod PART +15V -15V
REGULATOR IC (±V)
TO INPUT PART +9V
TO HDMI PART
POWER FAIL
+VCC(DC)
-VCC(DC)
UNBAL DETECT
REGULATOR CIRCUITS
DRIVER SUPPLY VOLTAGE
FILMENT VOLTAGE
* OPTION (AVR3600 & AVR460)
TO A-BUS PART +24V
DC POWER
* OPTIONAL ACCESSORY *
TO INPUT PART ST+5V
POWER DOWN
RESET IC
POWER S/W
AC OUTLET
AC IN
HDMI_IN1 HDMI_IN2 HDMI_IN3 HDMI_IN4 HDMI_OUT
SII9185 (SW IC)
SII9134 (HDMI TX)
SII9135 (HDMI RX)
I2S/DSP_SPDIF
SN74ALVCH16827 Buffer & S/W 2EA
COMPOSITE (CVBS) IN
CVBS 3 IN
CVBS 2 IN
CVBS 2 OUT
CVBS 1 IN
NJM2595
VIDEO SWITCHING CONTROL
FLI30336 ANALOG INPUT
COMPONENT IN
COMPONENT MONITOR OUT
NJM2566 ANALOG OUTPUT
COMPOSITE MONITOR OUT
ADV7342 (DAC)
NJM2566 6CH VIDEO OUT
FLI30336 TORINO (SCALER)
DDR SDRAM 256M * 2EA
FLASH MEMORY 32M
TC74HC4094AFN 8-Bit Shift and Store Register
I2C & GPIO CONTROL
CS42528
114dB, 192 kHz 8-CH CODEC WITH S/PDIF RECEIVER
COAX.1
COAX.2
COAX OUT
OPT.1
OPT.2
OPT.3
DSP CS497024 Audio Decoder DSP
M12L16161A 16M SDRAM
SPI Serial Flash 8 Mbit
DSP2 CS49DV8C Audio DSP Engine featuring Multichannel Dolby Volume
SPI Serial Flash 4 Mbit
QUAD 2-CH MUX
TMP92FD28FG iPod HOST
TMP86F409NG iPod HOST
USB
iPod
Sirius
T5CN5 32bit u-COM
** EEP_ROM ** FOR BACK-UP MEMORY.
EEPROM (32 Kbit)
FL DISPLAY
REMOTE SENSOR
ROTARY ENCODER (MASTER VR)
KEY MATRIX
VOLUME Indicator
COMUNICATION BETWEEN TORINO AND MCU WITH UART RX/TX
REVISION
SCHEMATIC DIAGRAM
SHEET
MODEL
AVR2600 & AVR3600
AVR360/230 & AVR460/230
DESIGN
CHECK
APPROVE
DRAWING NO
J.H.Lee
W.Y.Yang
G.S.Wey
BLOCK DIAGRAM
2172BLDZ
09.07.27
09.07.27
09.07.27

WIRING DIAGRAM

Video in PCB
(CUP12175-2)
BN56

16P Board to Board
6P Board to Board
Torino PCB
(CUP12179)
CN56
CN57

Video out PCB
(CUP12175-1)
BN57

CN54 (5P) : FOR DEBUG (Torino F/W Update)
BN82
7 P Wire Ass'y
17P Card Cable
BN15
CN55

OPTION
(AVR3600 & AVR460)
AC IN
Plug
Inlet

26P Board to Board
BN55
USB iPod(IR) PCB
(CUP12169)
CN58 (7P) : FOR DEBUG (USB F/W UPDATE)
CN50 (5P) : FOR DEBUG (iPod F/W UPDATE)
CN81
BN81
CN51
7P Shield Wire Ass'y

DC POWER PCB
(CUP12172-6)
BN40
OPTION
(AVR3600 & AVR460)

44P Board to Board
CN30 (7P) : FOR DEBUG (MCU F/W UPDATE)
CN40
CN52
3P Shield Wire Ass'y

Digital in PCB
(CUP12172-3)
BN17
6P Board to Board
CN17

Input (DSP) PCB
(CUP12176)
CN15
27P Card Cable
BN12

AC IN
Plug
OPTION
(AVR2600 & AVR360)

MONS SWITCH
7P Wire Ass'y
CN20
31P Card Cable
BN72

DC-FAN

Main PCB
(CUP12170)
CN90
BN20
5P Wire Ass'y
JW93
JW93_
TH91
2P
2P
2P
CN93
CN89
FAN
BN14
BN14A
BN26A
BN26
JW91_
JW91
BN25A
BN25
BN15
BN15A
CN12
27P Card Cable

BN22
Power1 PCB
(CUP12172-2)
CN20
5P

CN91
2P Wire Ass'y
CN92
AC POWER CORD
8P Board to Board
CN11

3P Shield Wire Ass'y
7P Shield Wire Ass'y
BN52
BN51
Front in PCB
(CUP12168-2)

7P Wire Ass'y
CN82
CN96
BN20
CN11
THERMAL SENSOR
DC-FAN
Main Heat Sink

Power2 PCB
(CUP12172-1)
BN23
BN96
9P Wire Ass'y

PROTECT PCB
(CUP12172-5)

H/P PCB
(CUP12168-3)
12P Board to Board
BN61
CN61

Regulator PCB (CUP12172-4)

5P Wire Ass'y
BN71
Front PCB
(CUP12168-1)
CN72
31P Card Cable
BN74
CN74
5P Wire Ass'y
Volume PCB
(CUP12168-5)

STAND BY PCB
(CUP12168-4)
BN73
6P Board to Board
CN73

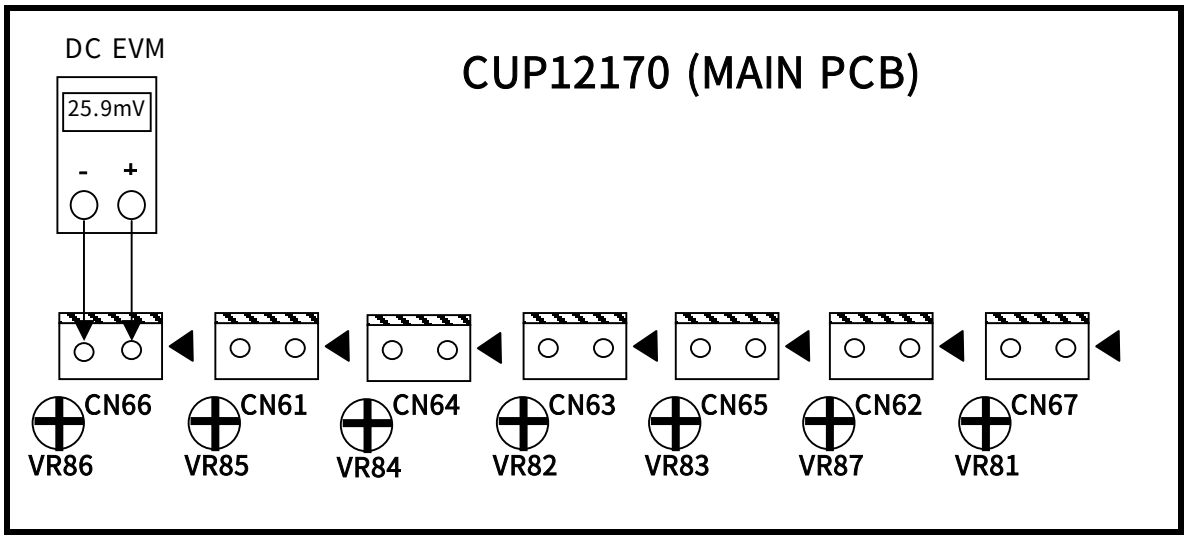
REVISION	2	4	6
1	3	5	7

WIRING DIAGRAM				SHEET
MODEL	AVR2600 & AVR360/230 AVR3600 & AVR460/230			1 / 1
DESIGN	CHECK	APPROVE	DRAWING NO	
			2173WRDZ	
09.07.01	09.07.01	09.07.01	(WIRING DIAGRAM)	1 / 1

AMPLIFIER SECTION BIAS ADJUSTMENT

Measurement condition
; No input signal or volume position is minimum.

Standard value
; Ideal current = 48mA (± 5%)
; Ideal DC Voltage = 25.92mV (± 5%)

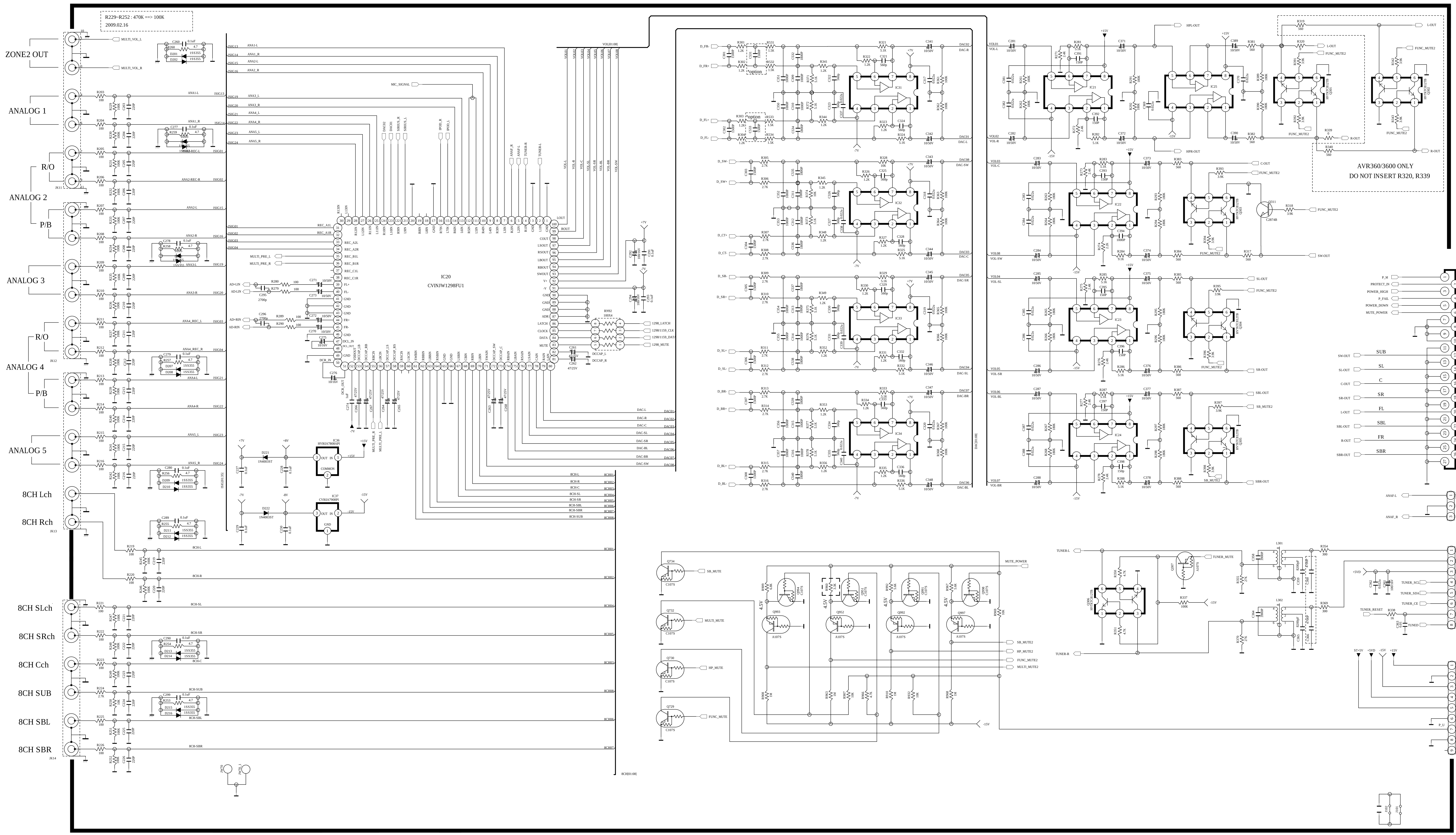


DC VOLTMETER ; Connect to
CN66(SL),CN61(CEN),CN64(SR),CN63(FL),CN65(SBL),CN62(FR),CN67(SBR)

NO.	Channel	Adjust for	Adjustment
1	Front Left	25.92mV (± 5%)	CN63
2	Front Right	25.92mV (± 5%)	CN62
3	Center	25.92mV (± 5%)	CN61
4	Surround Left	25.92mV (± 5%)	CN66
5	Surround Right	25.92mV (± 5%)	CN64
6	Surround Back Left	25.92mV (± 5%)	CN65
7	Surround Back Right	25.92mV (± 5%)	CN67

6 5 4 3 2 1

CUP12177*



** IMPORTANT SAFETY NOTICS.

COMPONENTS IDENTIFIED BY ⚠ MARK HAVE SPECIAL CHARACTERISTICS.

IMPORTANT FOR SAFETY. WHEN REPLACING ANY OF THESE COMPONENTS USE ONLY MANUFACTURER'S SPECIFIED PARTS.

** THE UNIT OF RESISTANCE IS OHM.

K=1000 OHM , M=1000 KOHM

** THE UNIT OF CAPACITANCE IS MICROFARAD. (uF)

pF=10 ⁻⁶uF

** THIS SCHEMATIC DIAGRAM MAY MODIFIED AT ANY TIME WITH THE IMPROVEMENT OF PERFORMANCE.

REVISION	2		4		6	
1	3		5		7	

SCHEMATIC DIAGRAM			SHEET
MODEL	AVR260/360/2600/3600		1/3
DESIGN	CHECK	APPROVE	DRAWING NO
			2177SCMZ (INPUT)
08.10.06			1/1

CUP12177*

DATA	CS497024	SDRAM
EXT_D15/SD_D7	58	12
EXT_D14/SD_D6	59	11
EXT_D13/SD_D5	60	9
EXT_D12/SD_D4	61	8
EXT_D11/SD_D3	63	6
EXT_D10/SD_D2	64	5
EXT_D9/SD_D1	65	3
EXT_D8/SD_D0	68	2
EXT_D7/SD_D15	69	49
EXT_D6/SD_D14	70	48
EXT_D5/SD_D13	71	46
EXT_D4/SD_D12	72	45
EXT_D3/SD_D11	74	43
EXT_D2/SD_D10	75	42
EXT_D1/SD_D9	77	40
EXT_D0/SD_D8	78	39

Address	CS49700	SDRAM
EXT_A19	117	
EXT_A18	116	
EXT_A17	114	
EXT_A16	113	
EXT_A15	111	
EXT_A14/SD_A13	106	
EXT_A13/SD_A14	104	19
EXT_A12/SD_A10	103	20
EXT_A11/SD_A12	55	
EXT_A10/SD_A11	56	
EXT_A9/SD_A9	87	32
EXT_A8/SD_A8	88	31
EXT_A7/SD_A7	90	30
EXT_A6/SD_A6	91	29
EXT_A5/SD_A5	93	28
EXT_A4/SD_A4	96	27
EXT_A3/SD_A3	97	24
EXT_A2/SD_A2	99	23
EXT_A1/SD_A1	101	22
EXT_A0/SD_A0	102	21

REVISION	2		4		6	
1	3		5		7	

SCHEMATIC DIAGRAM

SHEET 2/3

MODEL: AVR260/360/2600/3600

DESIGN	CHECK	APPROVE	DRAWING NO
08.10.06			2177SCMZ (DSP)

1/1

CUP12177*

* MODEL OPTION *

MODEL	OP_A(PIN96)	OP_B(PIN100)
AVR3600	HIGH(R792)	LOW(R791)
AVR2600	LOW(R793)	LOW(R791)
AVR360	HIGH(R792)	HIGH(R790)
AVR260	LOW(R793)	HIGH(R790)

TO USB PCB

FROM FRONT PCB

FOR DEBUG

: PULL_UP

GPIO : Input/Out Port(without pull_up resistor)

Carr. Out

AVR360/3600 ONLY

A-BUS PART : ONLY FOR AVR360/3600

MULTI ROOM VOLUME : AVR360/3600

REVISION	2		4		6	
1		3		5		7	

SCHEMATIC DIAGRAM				SHEET
MODEL	AVR260/360/2600/3600			3/3
DESIGN	CHECK	APPROVE	DRAWING NO	
			2177SCMZ	
08.10.06			(CPU)	1/1

CUP12168*


CUP12168-1 FIP PCB
CUP12168-2 [STAND BY PCB]
CUP12168-3 [VOLUME PCB]
CUP12168-4 HEAD PHONE&INPUT(DIGITAL) JACK PCB
CUP12168-5 USB & INPUT(A/V ANALOG) JACK PCB
IC12 REMOCON SENSOR
IC13 74ACT04MTR (HEX INVERTER)
IC14 NJM2068M
IC15 NJM4556AL
IC11 74HCU04AFN (CMOS INVERTER)
FIP1
CN73
BN73
CN72
BN74
CN74
CN61
BN61
BN71
BN51
BN52
JK51
JK52
JK61
JK62
JK63
JW17
JW18
JW51
JW61
USB JACK
TO VR JACK PCB
FROM FIP PCB
FROM INPUT ASS'Y(CPU)
FROM MAIN TRANSFORMER
TO HEAD PHONE JACK PCB
TO USB PCB ASS'Y [AVR2600(USA)/AVR2600(EUR)] [AVR3600(USA)/AVR3600(EUR)]
TO INPUT PCB ASS'Y(CPU) [AVR1600(USA)/AVR1600(EUR)]
TO INPUT PCB ASS'Y(INPUT)
* OPTION *
* ESD *

REVISION	2		4		6
1	3		5		7

SCHEMATIC DIAGRAM			SHEET
MODEL	AVR1600,AVR2600,AVR3600		1/7
DESIGN	CHECK	APPROVED	DRAWING NO
			2168SCLZ
09.02.18	09.02.18	09.02.18	(FRONT) 1/1

CUP12170Z

SR-CH

AVR160,1600 : 2SD2389
AVR260,360,2600,3600:2SD2390

2SD2389P:AVR154
2SD2390:AVR155/254/255
2SD2560:AVR354/355

AVR160,1600 : 2SB1559
AVR260,360,2600,3600:2SB1560

2SB1559P:AVR154
2SB1560:AVR155/254/255
2SB1647:AVR354/355

BL-CH

AVR160,1600 : 2SD2389
AVR260,360,2600,3600:2SD2390

AVR160,1600 : 2SB1559
AVR260,360,2600,3600:2SB1560

SL-CH

AVR160,1600 : 2SD2389
AVR260,360,2600,3600:2SD2390

AVR160,1600 : 2SB1559
AVR260,360,2600,3600:2SB1560

BR-CH

AVR160,1600 : 2SD2389
AVR260,360,2600,3600:2SD2390

AVR160,1600 : 2SB1559
AVR260,360,2600,3600:2SB1560

C-CH

AVR160,1600 : 2SD2389
AVR260,360,2600,3600:2SD2390

AVR160,1600 : 2SB1559
AVR260,360,2600,3600:2SB1560

FR-CH

AVR160,1600 : 2SD2389
AVR260,360,2600,3600:2SD2390

AVR160,1600 : 2SB1559
AVR260,360,2600,3600:2SB1560

FL-CH

AVR160,1600 : 2SD2389
AVR260,360,2600,3600:2SD2390

AVR160,1600 : 2SB1559
AVR260,360,2600,3600:2SB1560

GAIN	R561, R562, R563, R564, R565, R850 R851
AVR1600	1.8K
AVR26/3600	1.6K

DC PROTECTOR

THERMAL PROTECTOR

OVERLOAD DETECTION

FAN,PROTECT TEST (SHORT)

ONLY FAN USING

JK91: CENTER, SL, SR
JK92: SBL, SBR, FL, FR

FOR USING FAN

EXCEPT AVR1600/2600

ONLY AVR1600/2600

JW90,JW91 : ALL MODELS
*OPTION

FROM TRANS

AC IN
C1A521FBYA (USA) : AVR1600 / 2600
C1A28043ZA (EUR) : AVR1602/230 , 260/230
AVR354,355,354/230,355/230 :
C1A216705Z (USA) : AVR3600
C1A28054E (EUR) : AVR3602/230

FP01 : 6.3A (UBA2CS300TLEY):USA
AVR1600
FP01 : 8A (UBA2C800TLEY):USA
AVR2600 / 3600
FP01 : 4A (UBA2C400TLEZ):EUR
AVR1602/230
FP01 : 6.3A (UBA2CS300TLEZ):EUR
AVR2602/230,360/230

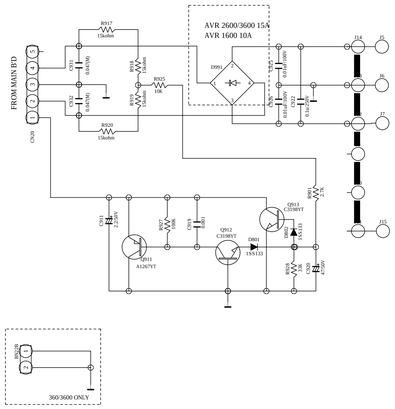
10000uF/50V : AVR1600
12000uF/63V : AVR2600
15000uF/63V : AVR3600
C915

12000uF/50V : AVR160
15000uF/63V : AVR260
18000uF/63V : AVR360
C916

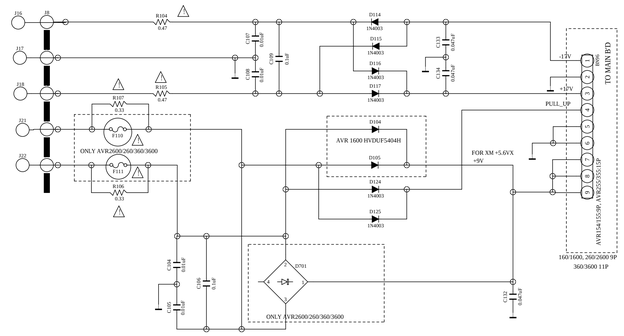
** IMPORTNAT SAFETY NOTICE.
IMPORTANT FOR SAFETY WHEN REPLACING ANY OF THESE COMPONENTS
USE ONLY MANUFACTURE'S SPECIFIED PARTS.
** THE UNIT OF RESISTANCE IS OHM.
K=1000 OHM, M=1000 KOHM.
** THE UNIT OF CAPACITANCE IS MICROFARAD (uF)
pF = 10 ^ uF
** THIS SCHEMATIC DIAGRAM MAY MODIFIED AT ANY TIME WIHE THE
IMPROVEMENT OF PERFORMANCE

REVISION	1		2		3	
SCHEMATIC DIAGRAM						SHEET
MODEL	AVR1600/2600/3600/160/260/360					2 / 7
DESIGN	CHECK	APPROVE	DRAWING NO			
			2170SCLZ (MAIN)			1 / 1
07.08.23						

< TRANS PCB 1 >

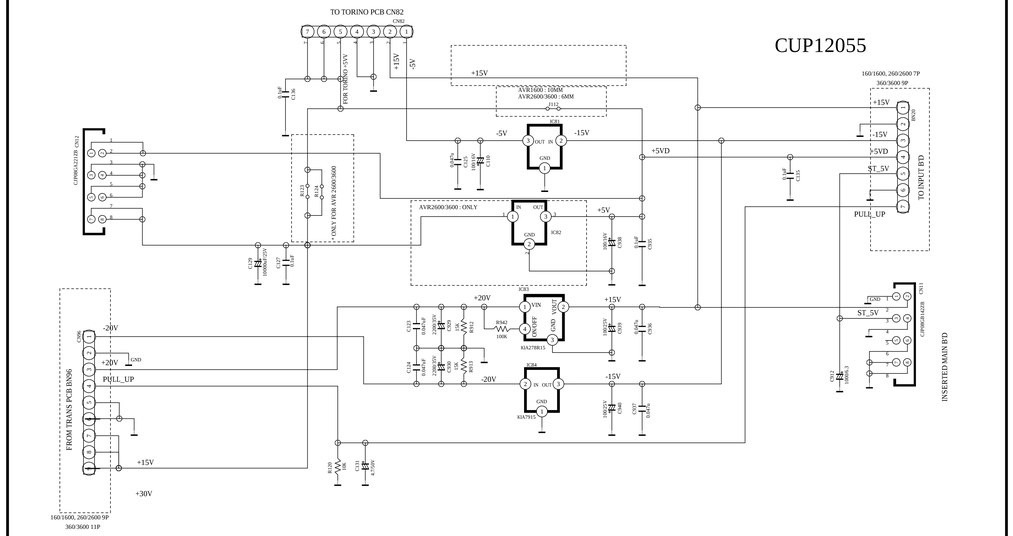


< TRANS PCB 2 >

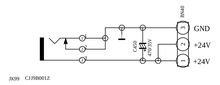


CUP12027-3

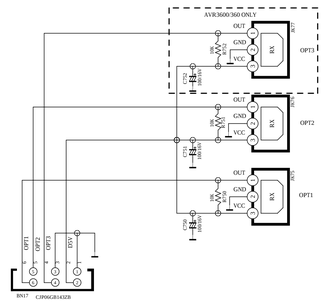
< REGULATOR PCB >



CUP12027-5

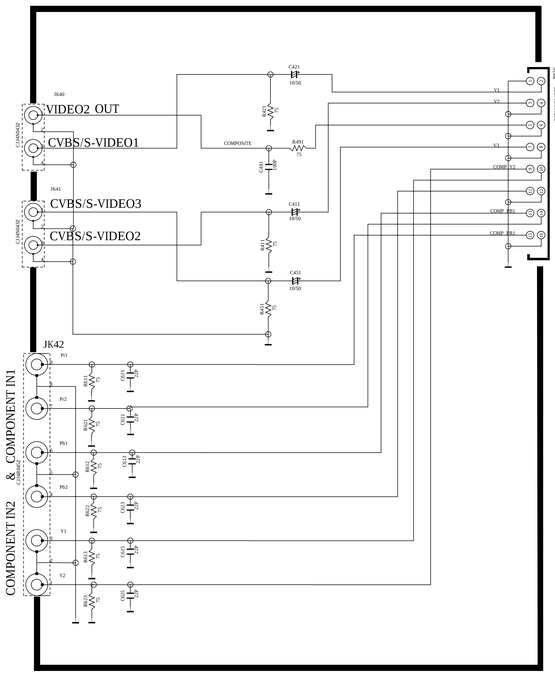


< OPTICAL PCB >



REVISION	2		4		6	
1		3		5		7	

SCHEMATIC DIAGRAM			SHEET
MODEL	AVR x600/x60		1/1
DESIGN	CHECK	APPROVE	DRAWING NO
			CUP12xxxY
08.02.11			(POWER) 1/1



*NJM2595M OPTION
==>V_MUTE "LOW" ACTIVE

FUNC.	SW1	SW2	SW3	SW4	SW5
CVBS/S-V1	H	L	L	L	H
CVBS/S-V2	L	H	L	L	H
CVBS/S-V3	H	L	L	H	H
FRONT CVBS/S-V	H	H	L	L	H
IPOD	H	L	H	H	H

REVISION	2		4		6	
1	3		5		7	

SCHEMATIC DIAGRAM
SHEET

MODEL
AVR2600 /3600
1/2

DESIGN	CHECK	APPROVE	DRAWING NO
			2145SCEZ
08.	08.	08.	(VIDEO) 1/1


CUP12179Z
INPUT-1
INPUT-2
INPUT-3
INPUT-4
HP DET
+5V
GND
DDC DATA
DDC CLK
NC
CE REMOTE
CK-
D1 SHIELD
CK+
D0-
D1 SHIELD
D0+
D1-
D2 SHIELD
D1+
D2-
D2 SHIELD
D2+
HDMI-RX,TX BLOCK
2007.10.11
Circuit Add
2007.10.06
+3.3V_HD-->3.3V_HD
2007.10.06
+1.8V_HD-->1.8V_HD
2008.6.02
HDMI_CEC_Option
R832(10Kohm) Pul-up ADD
REVISION
SCHEMATIC DIAGRAM
SHEET
1/5
MODEL
AVR260/360
DESIGN
CHECK
APPROVE
DRAWING NO
CUP12179Z
(HDMI-INPUT)
09.02.04
09.02.04
09.02.04

CUP12179Z

Added circuit 09.02.25
HDMI clk divider

2007.10.19
V+5V -->DDC+5V

2007.10.06
Do not use

2007.10.06
+3.3V_HD-->3.3V_HD

2007.10.26
Reverted

2007.10.26
Changed value to 100ohm.

2007.12.18
3.3V_HD-->1.8V_HD

2008.06.02
R969 Change Value 1K->10K 1%
R970 Change Value 2.2K->820 1%

HDMI OUT

TO DSP PCB

REVISION	1		2		3	
SCHEMATIC DIAGRAM						SHEET
MODEL	AVR260/360					2/5
DESIGN	CHECK	APPROVE	DRAWING NO			
			CUP12179Z			
09.02.04	09.02.04	09.02.04	(HDMI-RX,TX)			1/1

CUP12179Z

ANALOG VIDEO
INPUT PORT
COMPONENT IN : 2EA
COMPOSITE IN : 1EA

08.08.11:Delete S-Video
08.08.11:Delete Component3

HDMI & Torino S/W Control

RGB 10BIT INPUT

B 8BIT INPUT

G 8BIT INPUT

R 8BIT INPUT

*GPROBE

GPROBE_UPGRADE

*EEPROM

*DDR MEMORY INTERFACE

*FLASH MEMORY INTERFACE

B 8BIT OUTPUT

G 8BIT OUTPUT

R 8BIT OUTPUT

TTL OUTPUT

RGB 10BIT OUTPUT
TTL OUTPUT

*Need to change 2A

*Add 08.01.16 Reserved GPIOs.

*IR_IN/NO USE

*EVEN/ODD MONITORING

*CONTROL HDMI/VIDEO ENCODER

*COMMUNICATION WITH MCU

REVISION	2		4		6	
1		3		5		7	

SCHEMATIC DIAGRAM			SHEET
MODEL	AVR 260/360		3/5
DESIGN	CHECK	APPROVE	DRAWING NO
			CUP12179Z (TORINO) 1/1
09.02.04	09.02.04	09.02.04	


CUP12179Z
#DDR SDRAM *2EA
DRAWING NO
CVIA3S56D40ETPG5
CVIA3S56D40ETPG5
#VIDEO ENCORDER PART
44 DAC A Y
43 DAC B Pb
42 DAC C Pr
39 DAC D CVBS
38 DAC E S-Y
37 DAC F S-C
Red DATA Input
Blue DATA Input
Green DATA Input
#FLASH MEMORY
CLOCK DOUBLER(13.5MHz * 2 = 27MHz)
S1:HIGH ICLK
S1:LOW 2*CLK
SD(13.5MHZ) MODE : LOW
HD(30MHZ) MODE : HIGH
Control by Torino
REVISION 1 2 3 4 5 6 7
SCHEMATIC DIAGRAM
SHEET 4/5
MODEL AVR260/360
DESIGN CHECK APPROVE DRAWING NO
09.02.04 09.02.04 09.02.04
CUP12179Z
(ADV7342+MEM.)
1/1

CUP12179Z

PORT_EXTEND_VIDEO

HDMI By Pass Mode Interface

Scaling Mode Interface

DC/DC REGUALTOR

REVISION	2		4		6	
1		3		5		7	

SCHEMATIC DIAGRAM			SHEET
MODEL	AVR260/360		5/5
DESIGN	CHECK	APPROVE	DRAWING NO
			CUP12179Z
09.02.04	09.02.04	09.02.04	(Buffer&Connector.) 1/1

I-POD PART

02/R180/C162 DELETE

REVISION	2		4		6		
1	3		5		7		

SCHEMATIC DIAGRAM		SHEET
MODEL	AVR2600/3600	1/1
DESIGN	CHECK	APPROVE	DRAWING NO
			2169SCMZ
09.05.13	09.05.13	09.05.13	USB/IPOD/SIRIUS 1/1