To all our customers

Regarding the change of names mentioned in the document, such as Mitsubishi Electric and Mitsubishi XX, to Renesas Technology Corp.

The semiconductor operations of Hitachi and Mitsubishi Electric were transferred to Renesas Technology Corporation on April 1st 2003. These operations include microcomputer, logic, analog and discrete devices, and memory chips other than DRAMs (flash memory, SRAMs etc.) Accordingly, although Mitsubishi Electric, Mitsubishi Electric Corporation, Mitsubishi Semiconductors, and other Mitsubishi brand names are mentioned in the document, these names have in fact all been changed to Renesas Technology Corp. Thank you for your understanding. Except for our corporate trademark, logo and corporate statement, no changes whatsoever have been made to the contents of the document, and these changes do not constitute any alteration to the contents of the document itself.

Note : Mitsubishi Electric will continue the business operations of high frequency & optical devices and power devices.

Renesas Technology Corp.
Customer Support Dept.
April 1, 2003

M62494SP/FP

SOUND CONTROLLER FOR TV

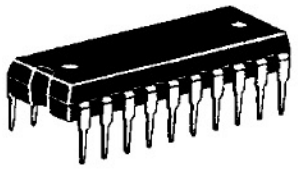
SRS (●)
everything else is only stereo™

SRS 3D Stereo + SRS 3D Mono 1Chip

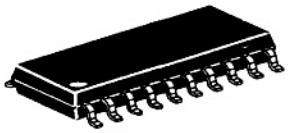
OUTLINE

M62494 has SRS 3D STEREO and SRS 3D MONO.
There are three modes, those are SRS 3D stereo SRS 3D mono and bypass.
Each mode can be set by terminals.

PACKAGE OUTLINE



20P4B(SP)



20P2N(FP)

FEATURE

- Each mode can be set by terminals.
- Mute Function

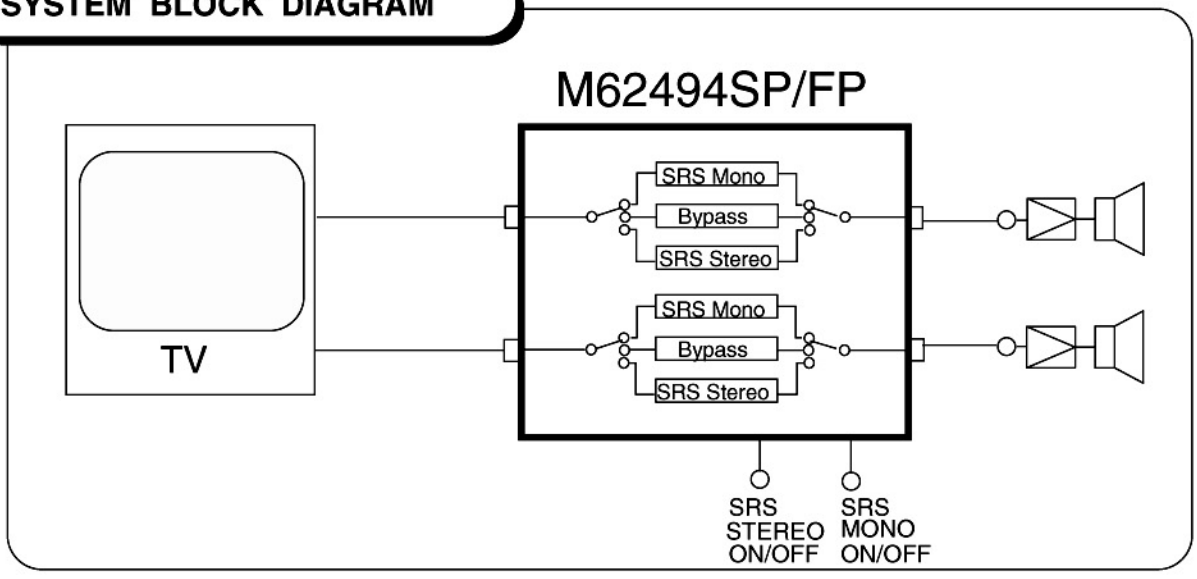
APPLICATION

- TV , Mini-Stereo , etc

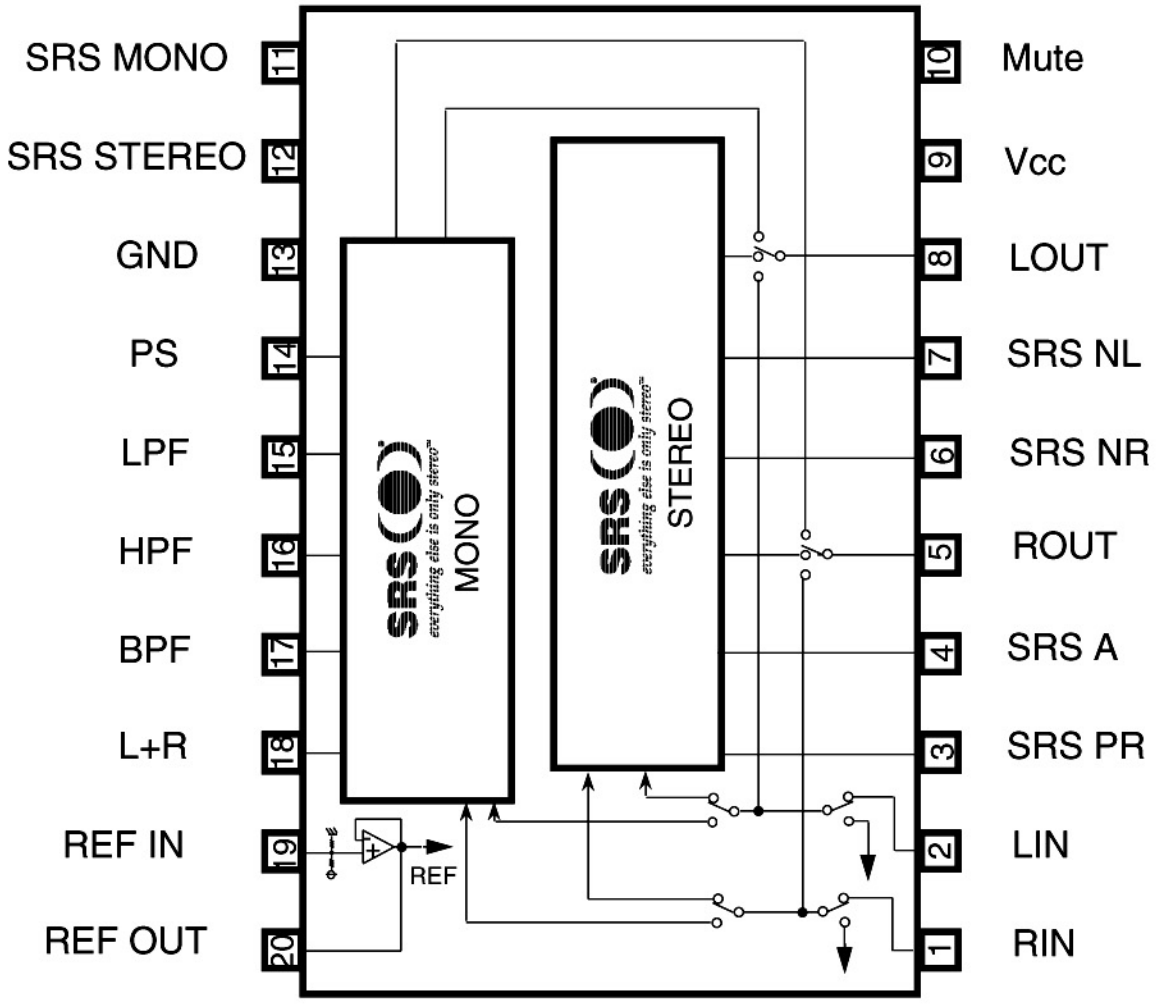
RECOMMENDED OPERATING CONDITION

- Supply voltage range 6 ~ 9.5V
- Rated supply voltage 9V

SYSTEM BLOCK DIAGRAM

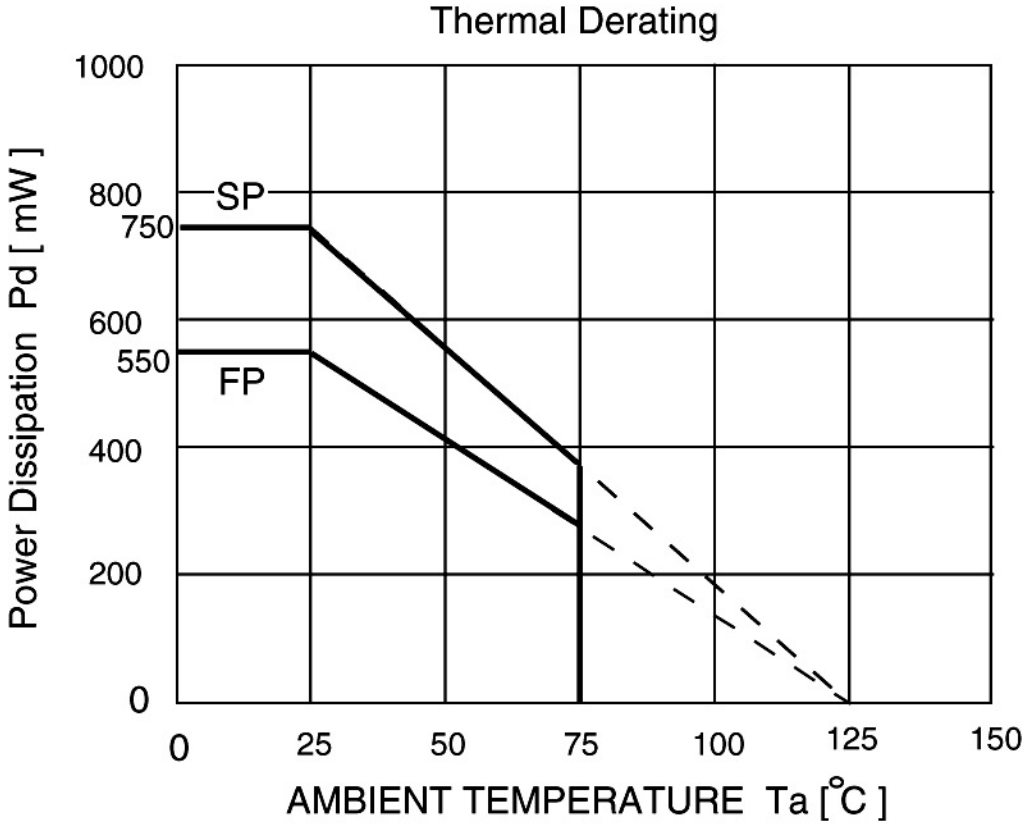


Block Diagram



ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Conditions	Ratings	Unit
Vcc	Supply Voltage		13.0	V
Pd	Power Dissipation	Ta≤25	750(SP)/550(FP)	mW
K_Θ	Thermal Derating	Ta>25	7.5(SP)/5.5(FP)	mW/°C
Topr	Operating Temperature		-20 ~ 75	°C
Tstg	Storage Temperature		-40 ~ 125	°C



RECOMMENDED OPERATING CONDITION

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
Vcc	Supply Voltage		4.5	9.0	12.0	V
V_{IH}	High Level Input Voltage	Pin-10,11,12	2.1	—	Vcc	V
V_{IL}	Low Level Input Voltage	Pin-10,11,12	0	—	0.8	V

ELECTRICAL CHARACTERISTICS

(1) Power Supply Characteristics

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
Icc	Circuit Current		—	16	35	mA

(2) -1 Input / Output Characteristics (Vcc=9V, Ta=25°C, Vi=500mVrms, pin 10=0V)

Symbol	Parameter	Conditions		Conditions	Limit			Unit
		Input	Output		Min.	Typ.	Max.	
Gv1	Input - Output Voltage Gain1	pin1,2 f=1kHz	pin5,8 RL=10KΩ	Bypass (pin11,12=0V)	-3	0	+3	dB
Gv2	Input - Output Voltage Gain2	pin1,2 f=1kHz	pin5,8 RL=10KΩ	SRS Stereo (pin12=5V/pin11=0V)	-0.5	+2.5	+5.5	dB
Gv3	Input - Output Voltage Gain3	pin1,2 f=100Hz	pin5,8 RL=10KΩ	SRS Stereo (pin12=5V/pin11=0V)	+7	+10	+13	dB
Gv4	Input - Output Voltage Gain4	pin1,2 f=100Hz	pin 8 RL=10KΩ	SRS Mono (pin12=0V/pin11=5V)	+4.5	+7.5	+10.5	dB
Gv5	Input - Output Voltage Gain5	pin1,2 f=10KHz	pin 8 RL=10KΩ	SRS Mono (pin12=0V/pin11=5V)	+2.5	+6	+9.5	dB
V_{OM}	Maximum Output Voltage	pin1,2 f=1kHz	pin5,8 THD=1% IHF-A filter RL=10KΩ	Bypass (pin11,12=0V)	1.8	2.2	—	Vrms
THD	Total Harmonic Distortion	pin1,2 f=1kHz Vi=0dBm	pin5,8 DIN-A filter RL=10KΩ	Bypass (pin11,12=0V)	—	0.01	0.05	%
MUTE	MUTE	pin1,2 f=1kHz Vi=0dBm	pin5,8 IHF-A filter RL=10KΩ	Mute (pin10=5V/pin11,12=0V)	—	55	45	dB

(Vcc=9V, Ta=25°C, pin 10=0V)

Symbol	Parameter	Conditions		Conditions	Limit			Unit
		Input	Output		Min.	Typ.	Max.	
V_{NO1}	Output Noise Voltage1		IHF-A filter	Bypass (pin11,12=0V)	—	3	10	μVrms
V_{NO2}	Output Noise Voltage2		IHF-A filter	SRS Stereo (pin12=5V/pin11=0V)	—	30	100	μVrms
V_{NO3}	Output Noise Voltage2		IHF-A filter	SRS Mono (pin12=0V/pin11=5V)	—	30	100	μVrms

Switch Condition and the Mode

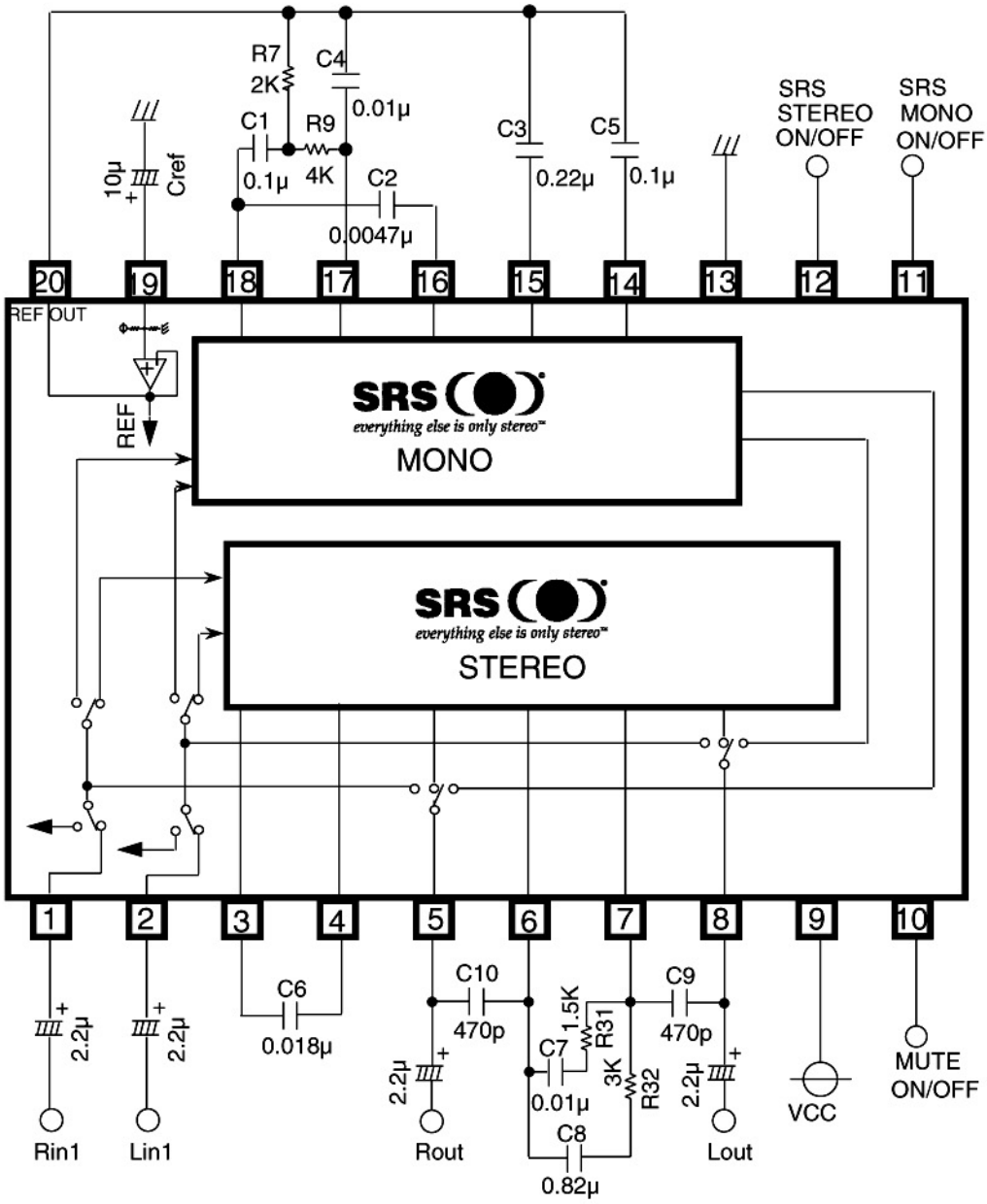
⑩ Mute	Mute Switch
ON	H
OFF	L

⑪ SRS MONO	SRS MONO Switch
ON	H
OFF	L

⑫ SRS STEREO	SRS ON/OFF Switch
ON	H
OFF	L

* Bypass mode can be set by both SRS STEREO switch and SRS MONO switch are set to "L".

● SRS Stereo/Mono/Bypass Version



NOTE

Each switches (SRS ON/OFF, SRS MONO ON/OFF Switches) does not have the countermeasure for click noise, so that we recommend outside mute circuit.