

PRELIMINARY
Notice ; This is not a final specification.
some parametric limits are subject to change.

MITSUBISHI SOUND PROCESSOR



M62458FP

SRS 3D SOUND PROCESSOR

SRS-Headphone 3D Sound Processor

OUTLINE

M62458FP is an SRS-Headphone 3D sound processor for Headphone, Speaker and Audio equipment.

This IC has only SRS-Headphone circuit and packed in a small 14-pin SOP.

FEATURES

- SRS-Headphone 3D sound circuit
- SRS on/off function switch included

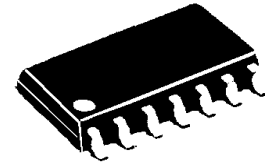
APPLICATION

- Headphone, Speaker, etc

RECOMMENDED OPERATING CONDITION

- Supply voltage range 4.5~12.0V
- Rated supply voltage 5V

PACKAGE OUTLINE



14Pin SOP

Size : 10.1mm X 5.3mm X 1.8mm

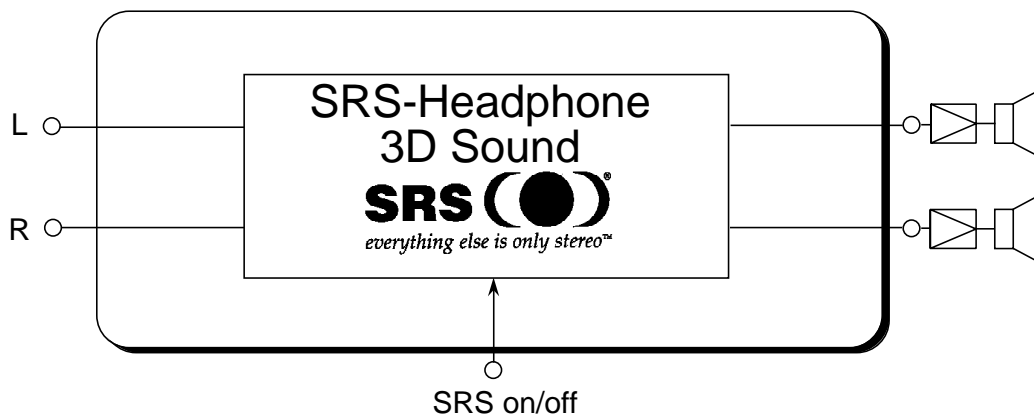
Note !!

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SYSTEM BLOCK DIAGRAM



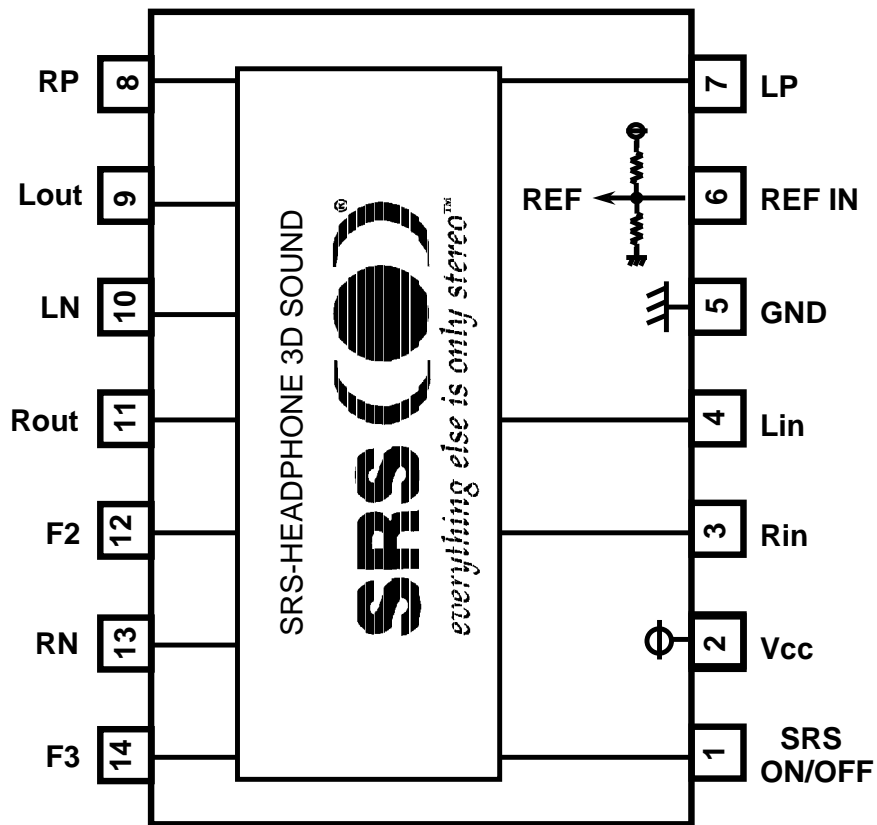
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BLOCK DIAGRAM

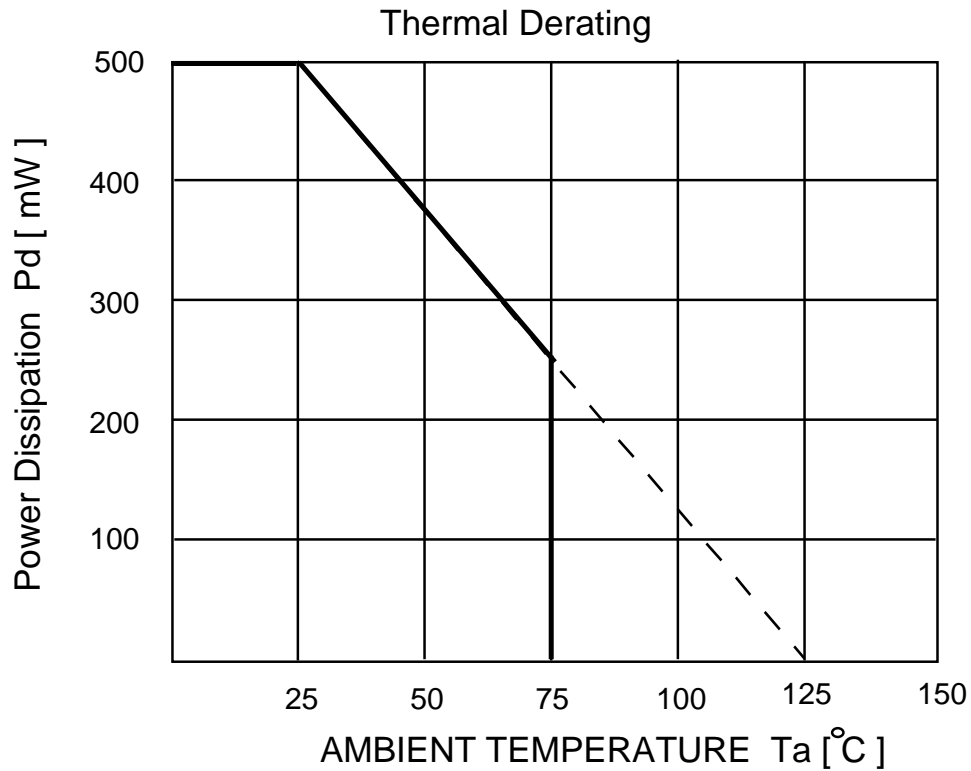


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ABSOLUTE MAXIMUM RATINGS

| Symbol | Parameter | Conditions | Ratings | Unit |
|------------|-----------------------|------------|-----------|-------|
| Vcc | Supply Voltage | | 13.0 | V |
| Pd | Power Dissipation | Ta<25 | 500 | mW |
| K θ | Thermal Derating | Ta>25 | 5 | mW/°C |
| Topr | Operating Temperature | | -20 ~ 75 | °C |
| Tstg | Storage Temperature | | -40 ~ 125 | °C |



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RECOMMENDED OPERATING CONDITION

| Symbol | Parameter | Conditions | Min. | Typ. | Max. | Unit |
|-----------------|--------------------------|-----------------|------|------|------|------|
| Vcc | Supply Voltage | | 4.5 | 5.0 | 12.0 | V |
| V _{IH} | High Level Input Voltage | Pin-1 (SRS on) | 2.1 | — | VDD | V |
| V _{IL} | Low Level Input Voltage | Pin-1 (SRS off) | 0 | — | 0.8 | V |

ELECTRICAL CHARACTERISTICS

(1) Power Supply Characteristics

| Symbol | Parameter | Conditions | Min. | Typ. | Max. | Unit |
|-----------------|-----------------|------------|------|------|------|------|
| I _{cc} | Circuit Current | | — | 10 | 20 | mA |

(2) -1 Input / Output Characteristics (V_{cc}=5V, T_a=25°C, V_i=0.1V_{rms})

| Symbol | Parameter | Conditions | | Conditions | Limit | | | Unit |
|------------------|------------------------------|----------------------------------|---|------------------|-------|------|------|-------------------|
| | | Input | Output | | Min. | Typ. | Max. | |
| G _{v1} | Input - Output Voltage Gain1 | f=1kHz | R _L =10K | SRS off | -3 | 0 | +3 | dB |
| G _{v2} | Input - Output Voltage Gain2 | f=1kHz | R _L =10K | SRS on (VOL=max) | 3.5 | 6.5 | 9.5 | dB |
| G _{v3} | Input - Output Voltage Gain3 | f=100Hz | R _L =10K | SRS on (VOL=max) | 13.0 | 16.0 | 19.0 | dB |
| G _{v4} | Input - Output Voltage Gain4 | f=10KHz | R _L =10K | SRS on (VOL=max) | 8.0 | 11.0 | 14.0 | dB |
| V _{OM} | Maximum Output Voltage | f=1kHz | THD=1% IHF-A filter R _L =10K | SRS on/off | 0.7 | 1.0 | — | V _{rms} |
| THD | Total Harmonic Distortion | f=1kHz V _i =-10dBv | DIN-A filter R _L =10K | SRS off | — | 0.01 | 0.05 | % |
| V _{NO1} | Output Noise Voltage1 | | IHF-A filter | SRS off | — | 5 | 10 | μV _{rms} |
| V _{NO1} | Output Noise Voltage2 | | IHF-A filter | SRS on (VOL=max) | — | 40 | 100 | μV _{rms} |

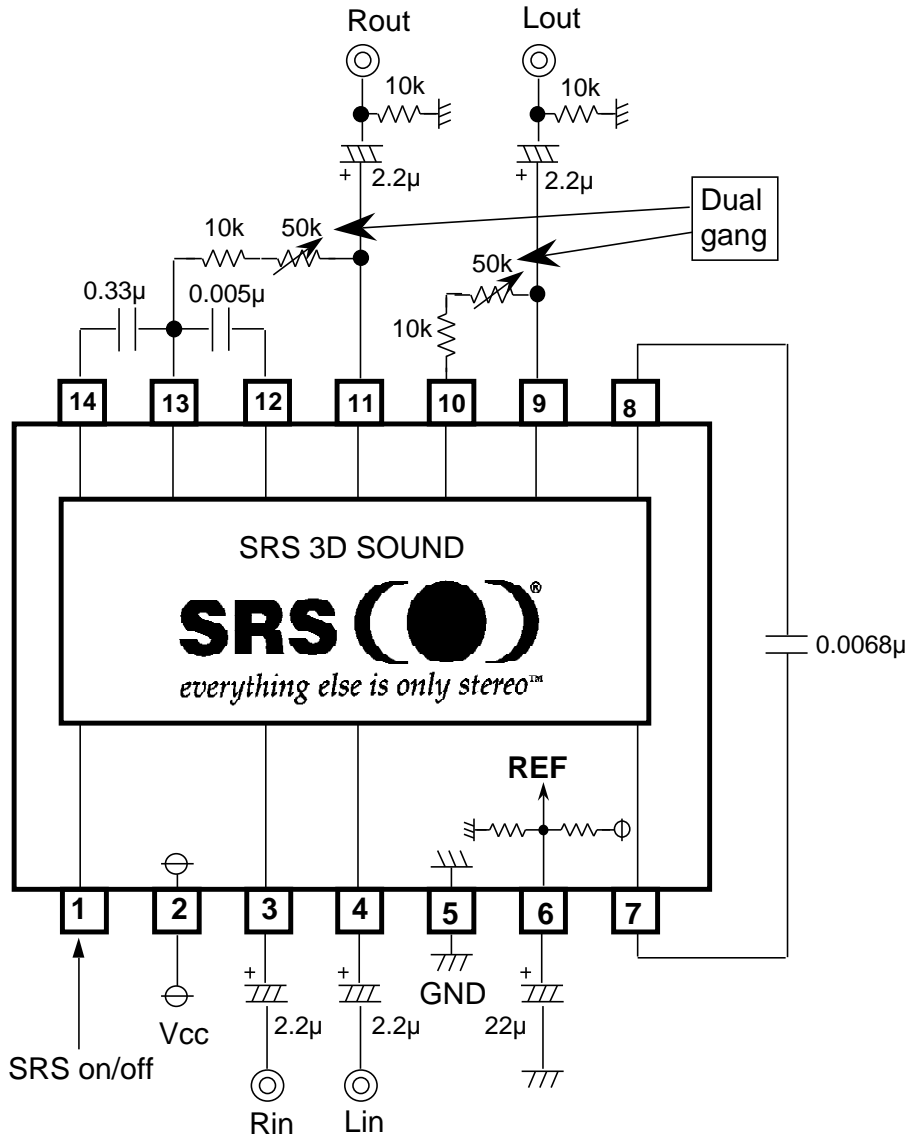
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APPLICATION EXAMPLE



Unit R:
 C: F

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