

PRELIMINARY
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MITSUBISHI SOUND PROCESSOR



M62455P/FP

SRS 3D SOUND PROCESSOR

Simplified SRS 3D Sound Processor

OUTLINE

M62455FP is an SRS 3D sound processor for PC, TV and audio equipment.

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

FEATURES

- SRS 3D sound circuit
- SRS on/off function switch included
- Noise level=25μVrms(When SRS on)

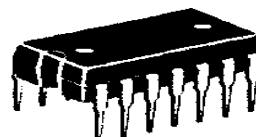
APPLICATION

- PC, TV, Mini Stereo, etc

RECOMMENDED OPERATING CONDITION

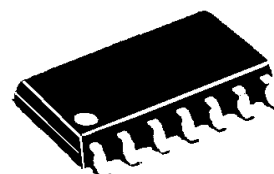
- Supply voltage range 4.5 ~ 12.0V
- Rated supply voltage 9V

PACKAGE OUTLINE



14Pin DIP

Size:19 mmX6.3mmX2.54mm



14Pin SOP

Size:10.1 mmX5.3mmX1.8mm

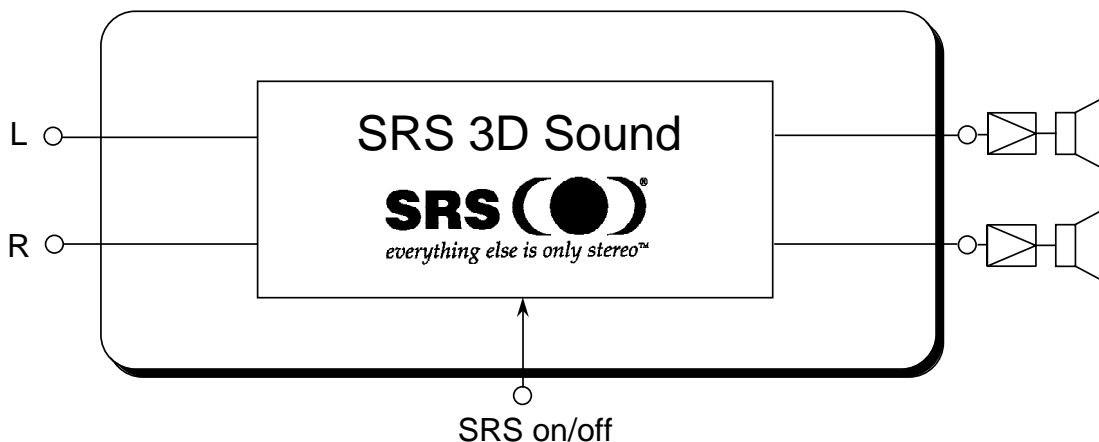
Note !!

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SYSTEM BLOCK DIAGRAM



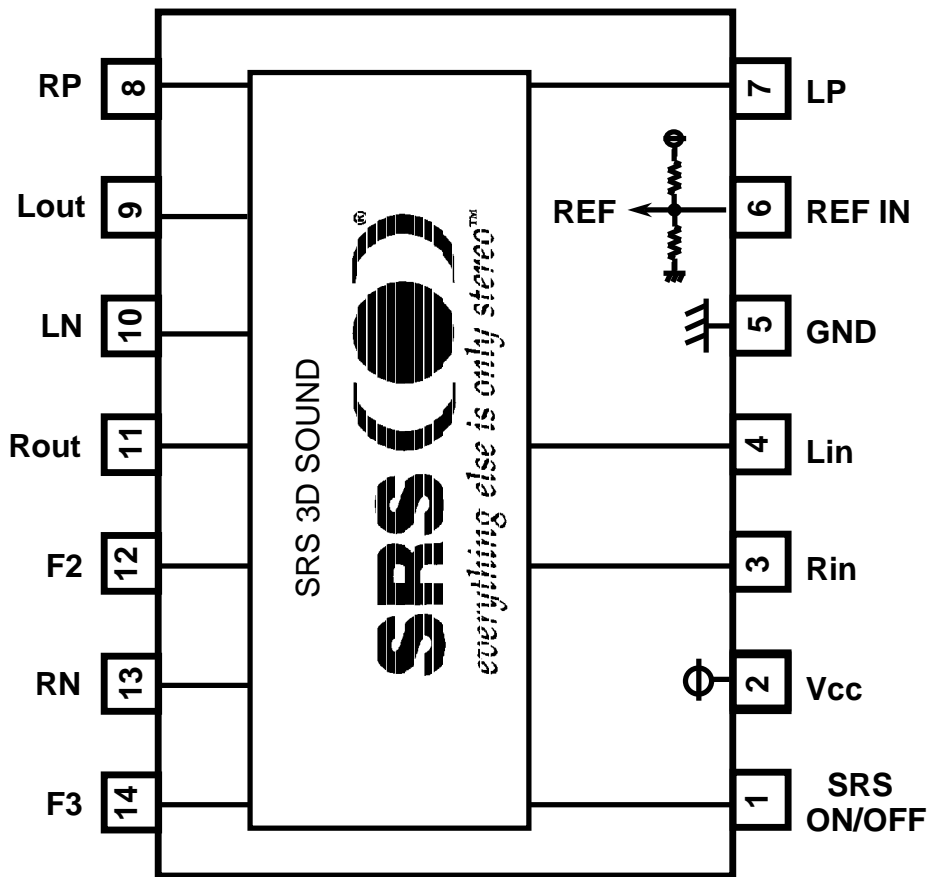
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BLOCK DIAGRAM

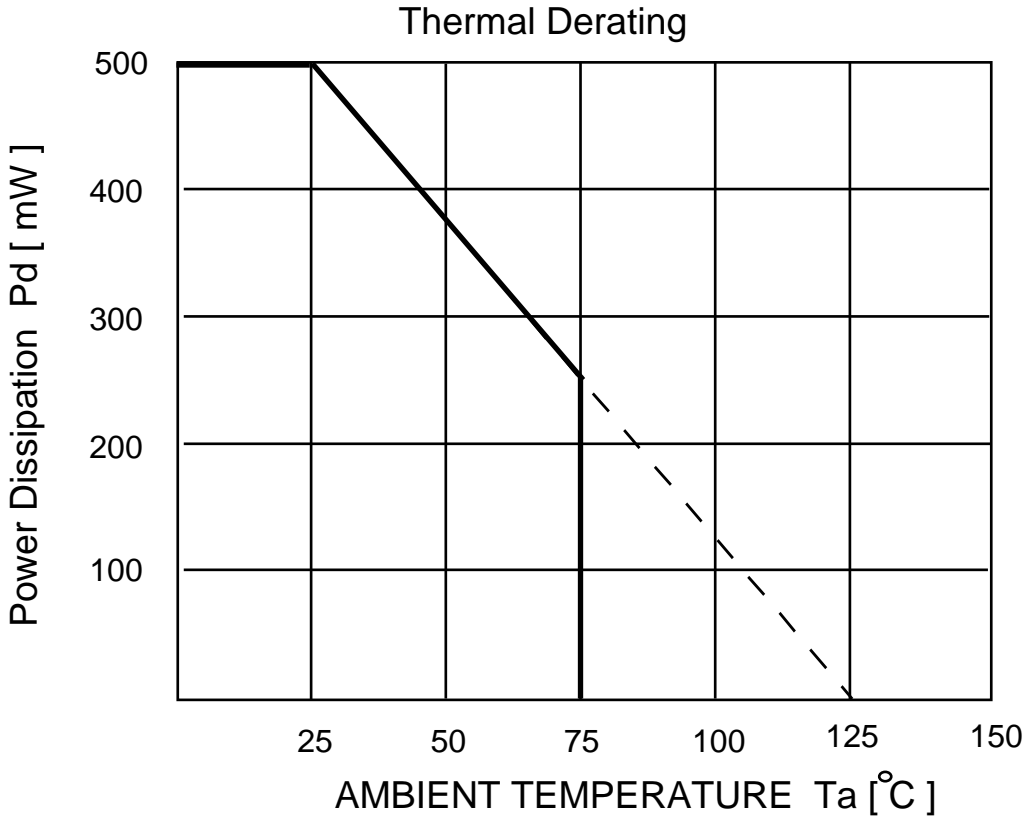


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ABSOLUTE MAXIMUM RATINGS

| 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 | 9.0 | 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}=9V, T_a=25°C, V_i=500mVrms)

| 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 | 4.0 | 7.0 | 10.0 | dB |
| G _{v3} | Input - Output Voltage Gain3 | f=100Hz | R _L =10K | SRS on | 8.0 | 11.0 | 14.0 | dB |
| G _{v4} | Input - Output Voltage Gain4 | f=10KHz | R _L =10K | SRS on | 7.0 | 10.0 | 13.0 | dB |
| V _{OM} | Maximum Output Voltage | f=1kHz | THD=1% IHF-A filter R _L =10K | SRS on/off | 1.8 | 2.2 | — | 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 | — | 25 | 60 | μV _{rms} |

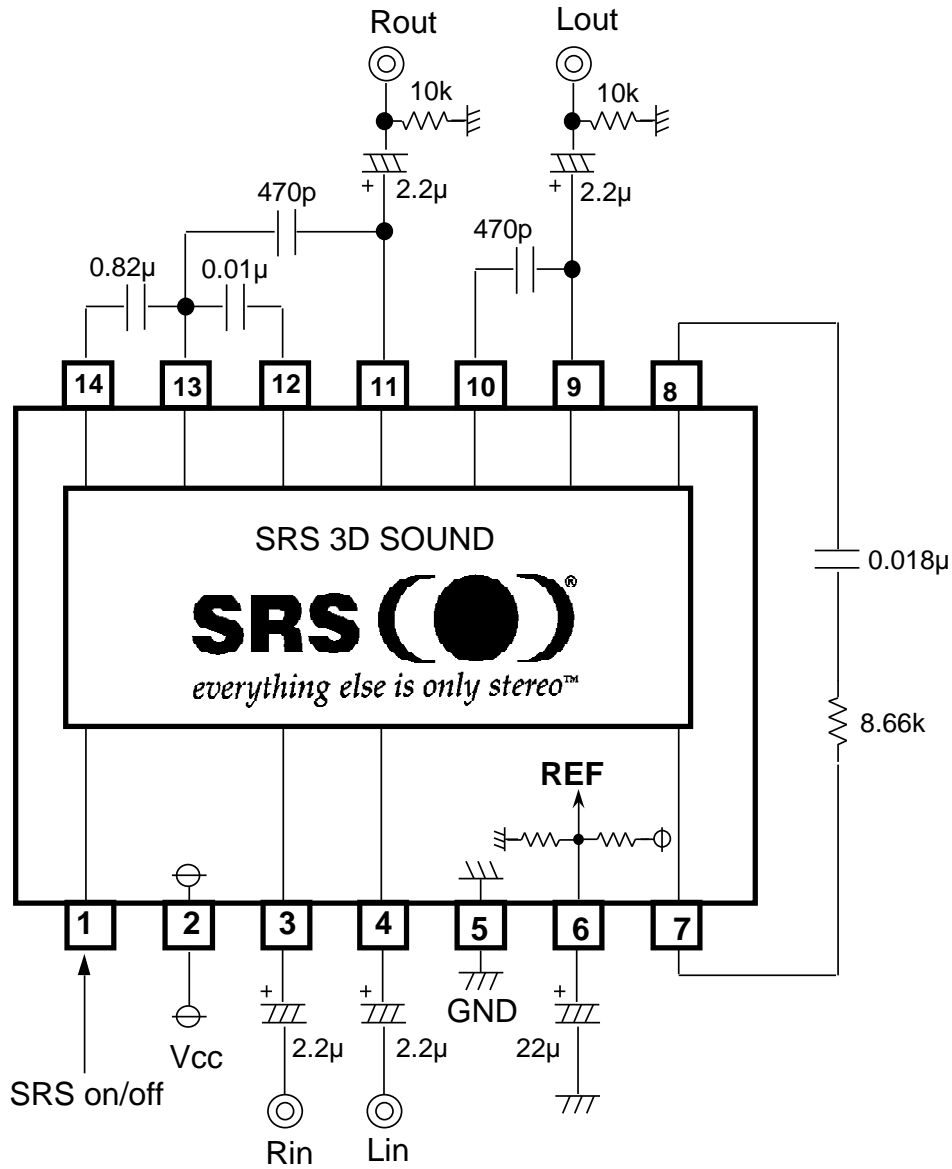
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APPLICATION EXAMPLE



Unit R:
 C: F

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Keep safety first in your circuit designs !

- Mitsubishi Electric Corporation puts the maximum effort into making semiconductor products better and more reliable, but there is always the possibility that trouble may occur with them. Trouble with semiconductors may lead to personal injury, fire or property damage. Remember to give due consideration to safety when making your circuit designs, in order to prevent fires from spreading, redundancy, malfunction or other mishap.

Notes regarding these materials

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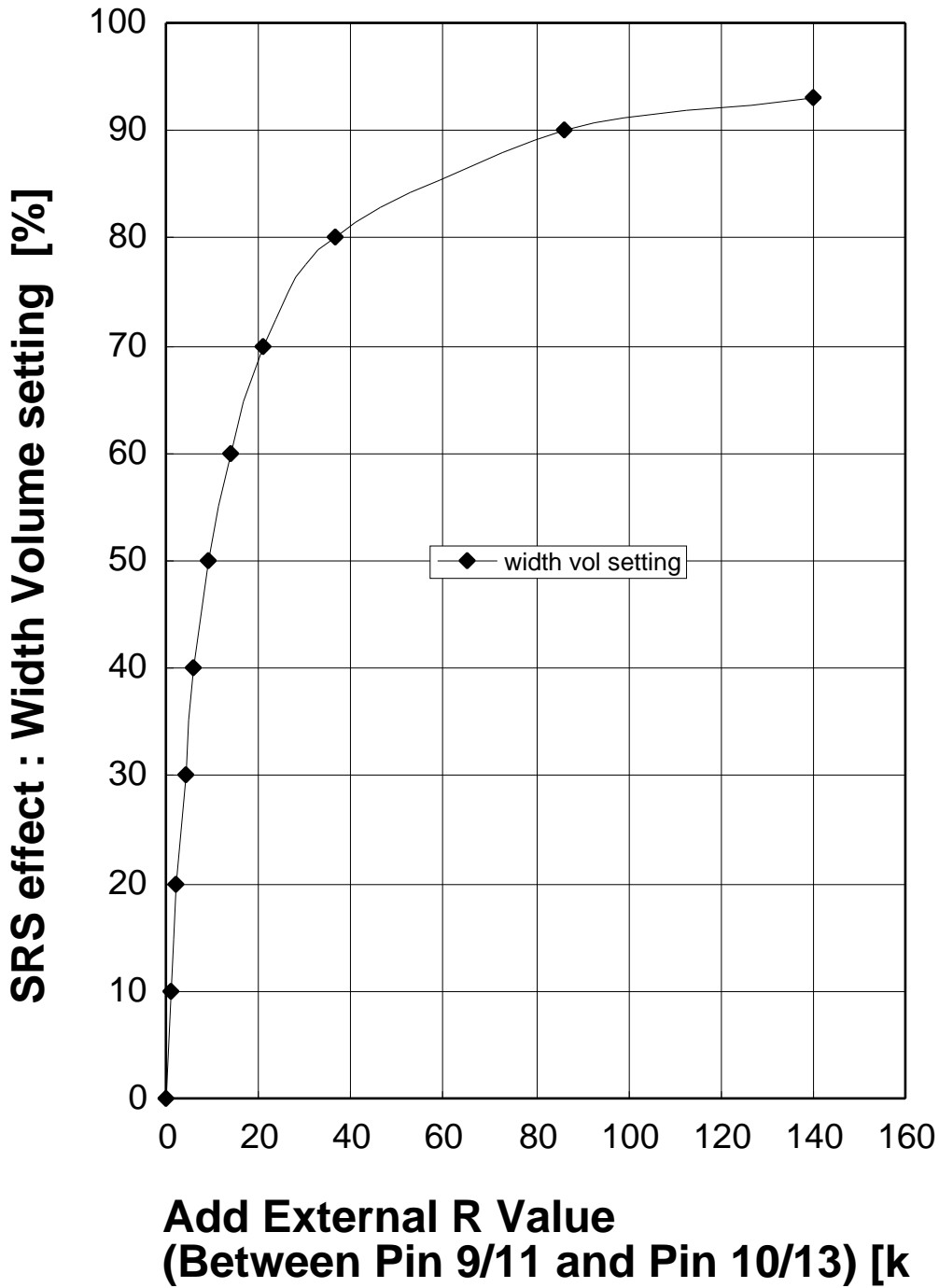
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Width Volume as a Function of Add External R.

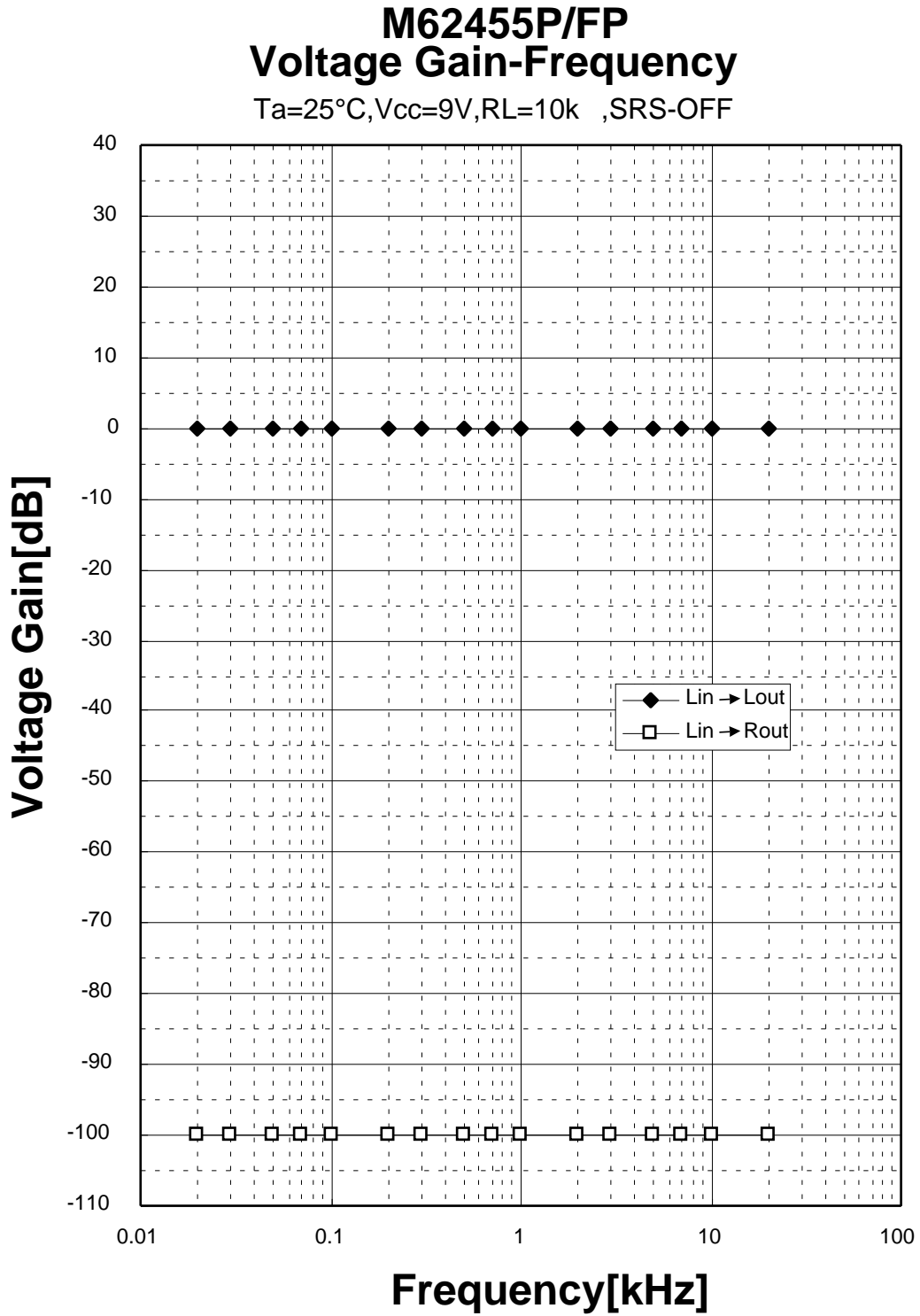


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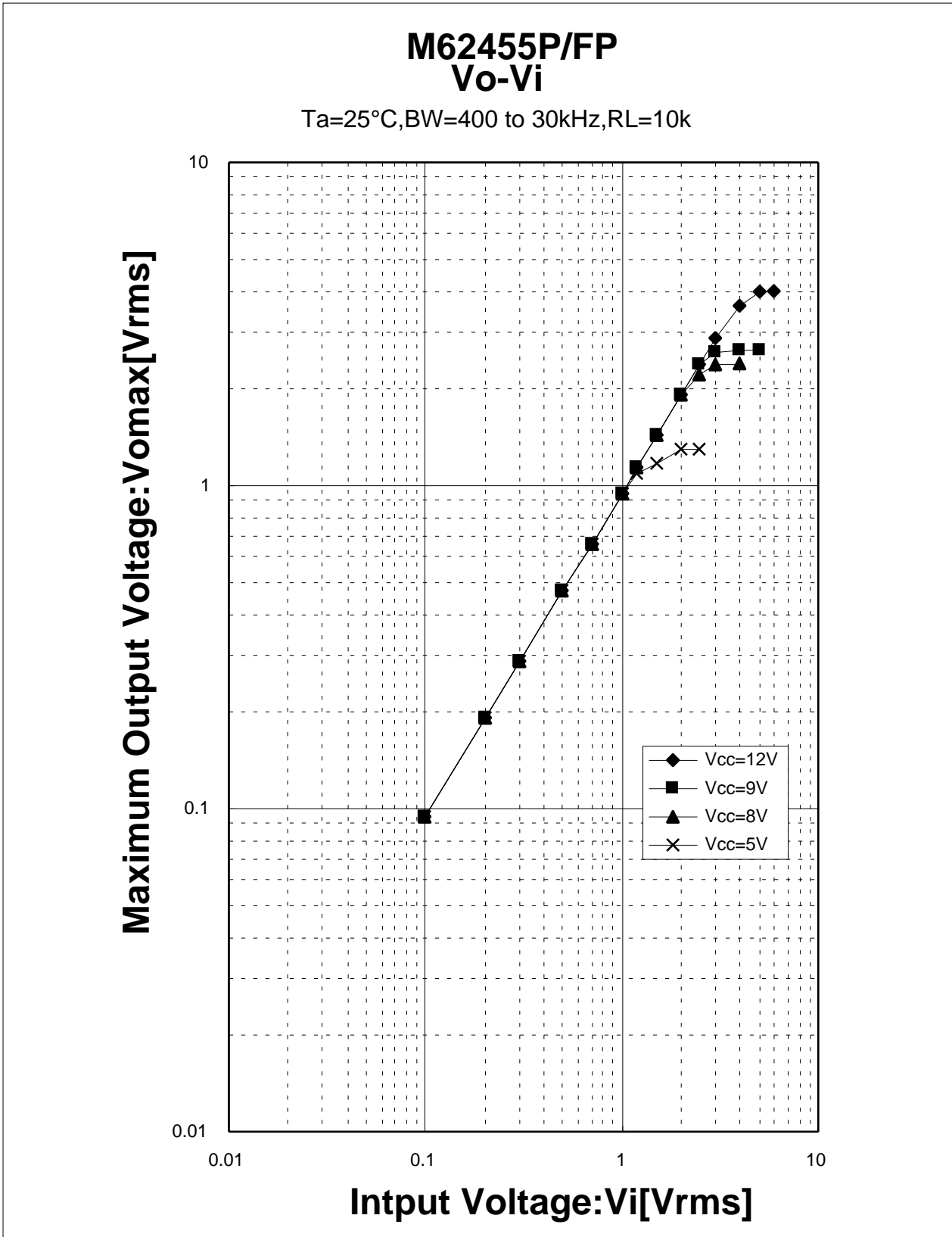


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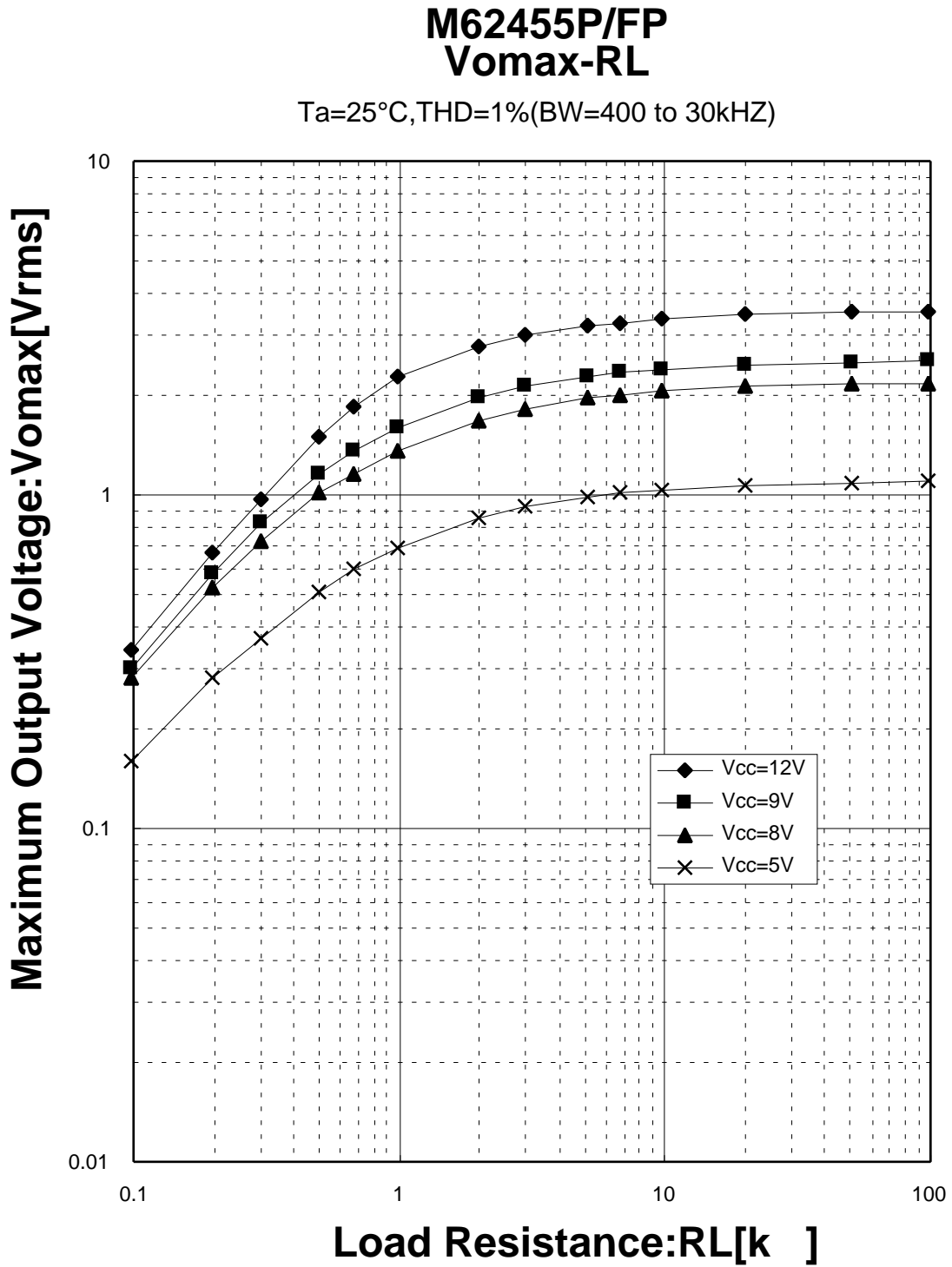


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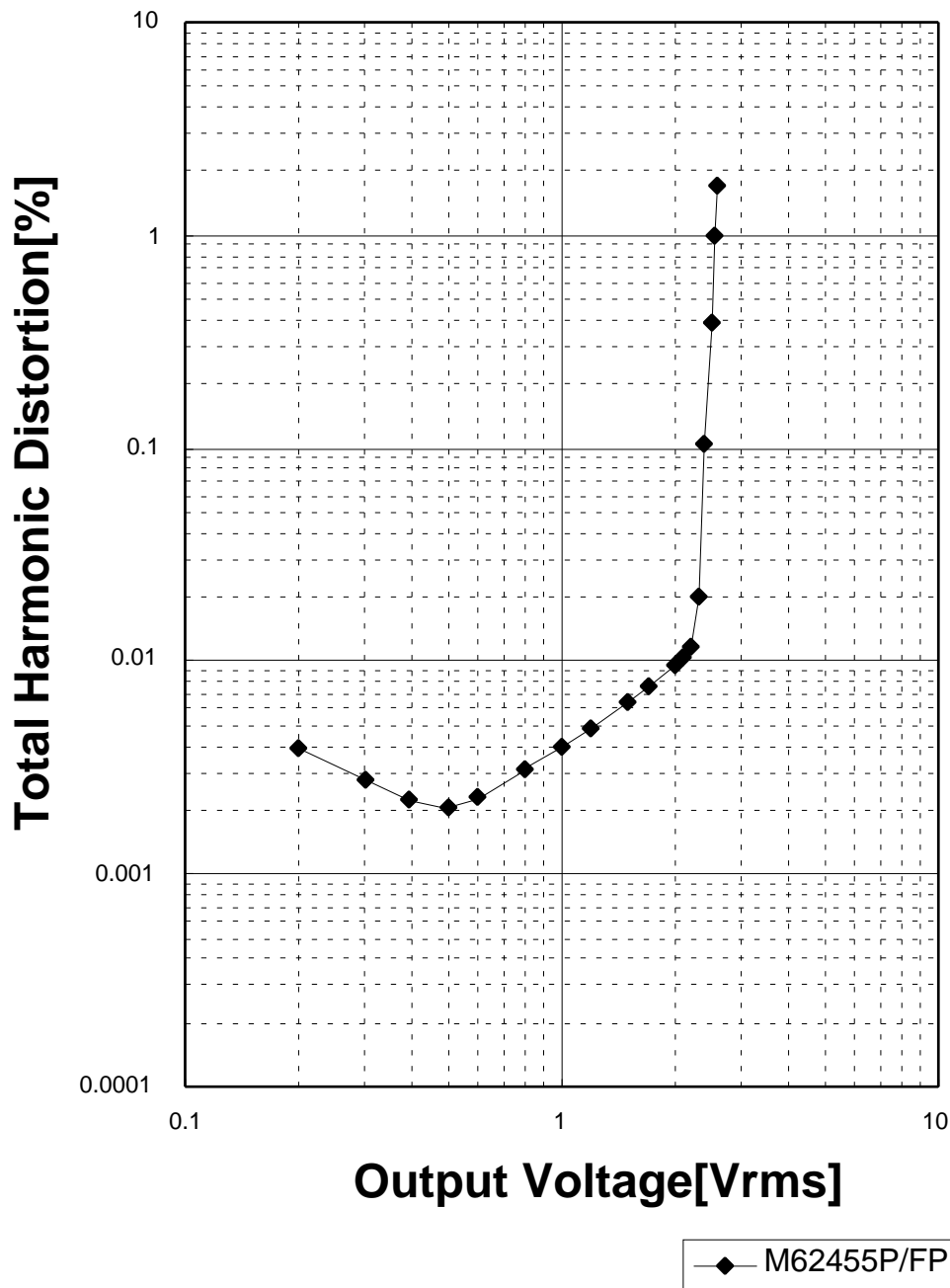
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SRS 3D SOUND PROCESSOR

M62455P/FP THD-V_o

T_a=25°C, V_{cc}=9V, BW=400 to 30kHz, R_L=10k, SRS-OFF



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SRS 3D SOUND PROCESSOR

M62455P/FP No-Vcc

Ta=25°C, Vcc=9V, Vi=0mVrms(Rg=0), JIS-A filter

