



**M62438FP**

SRS 3D SOUND PROCESSOR

## Simplified SRS 3D Sound Processor

### OUTLINE

M62438FP is an SRS 3D sound processor for PC, TV and audio equipment.

This IC has only simplified SRS circuit and packed in a small 10-pin SOP.

### FEATURES

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

### APPLICATION

- PC, TV, Mini Stereo, etc

### RECOMMENDED OPERATING CONDITION

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

### PACKAGE OUTLINE



10Pin SOP

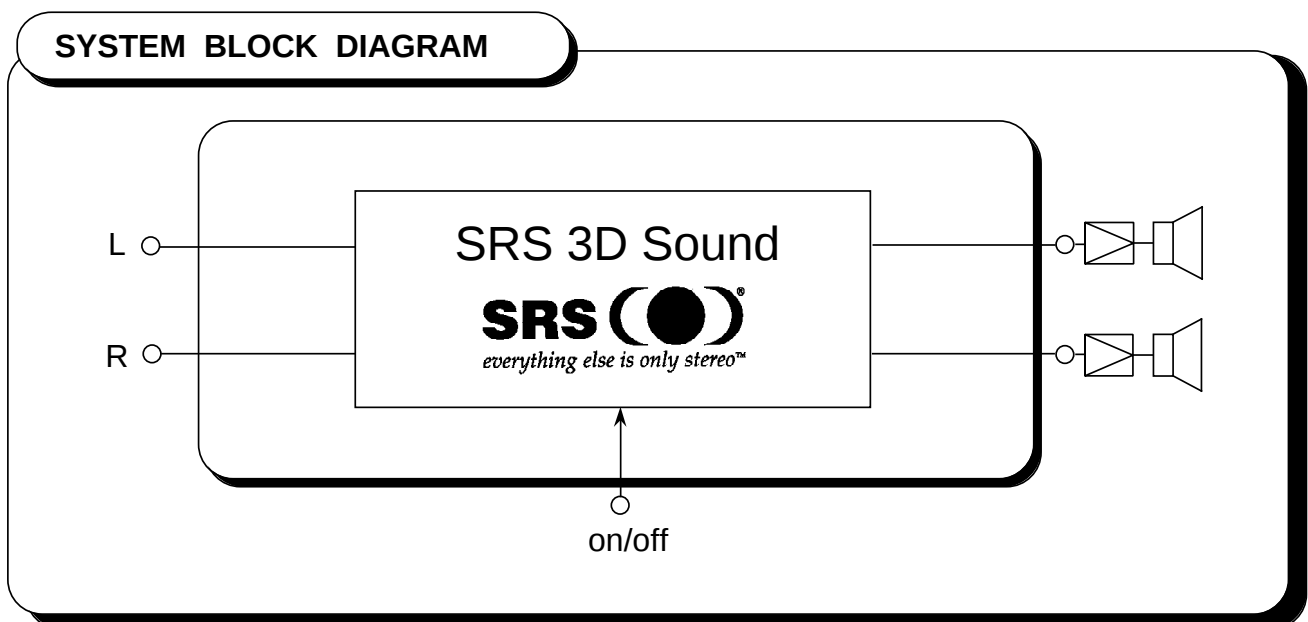
### Note !!

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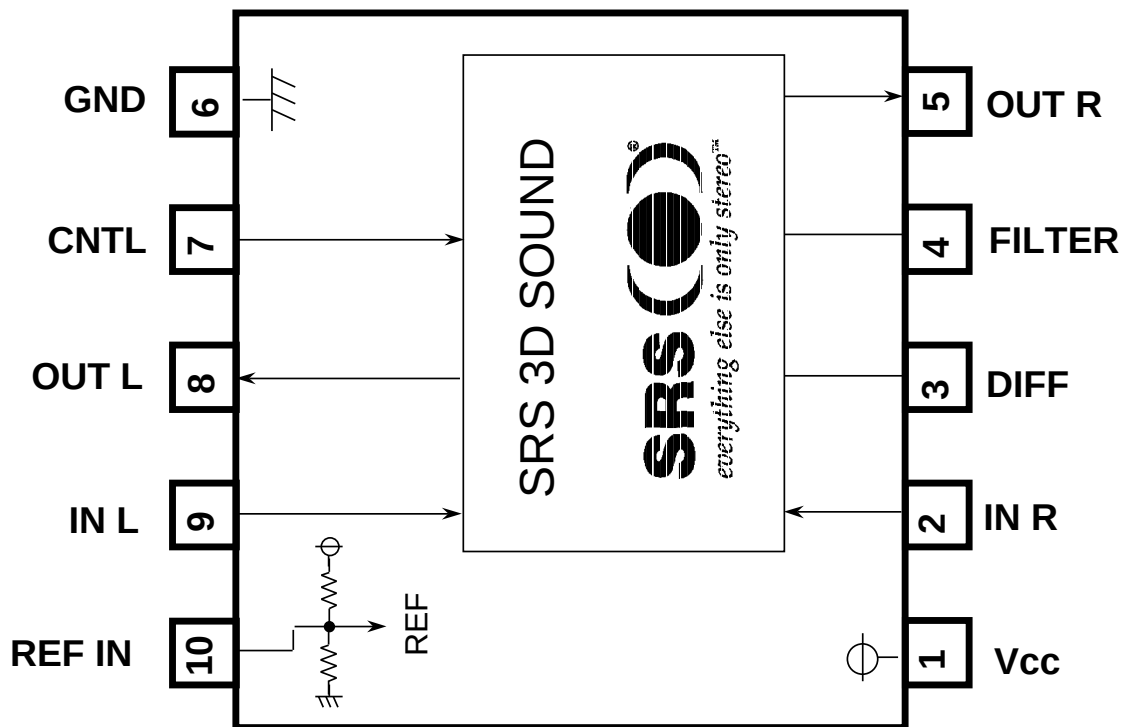
### SYSTEM BLOCK DIAGRAM



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## BLOCK DIAGRAM

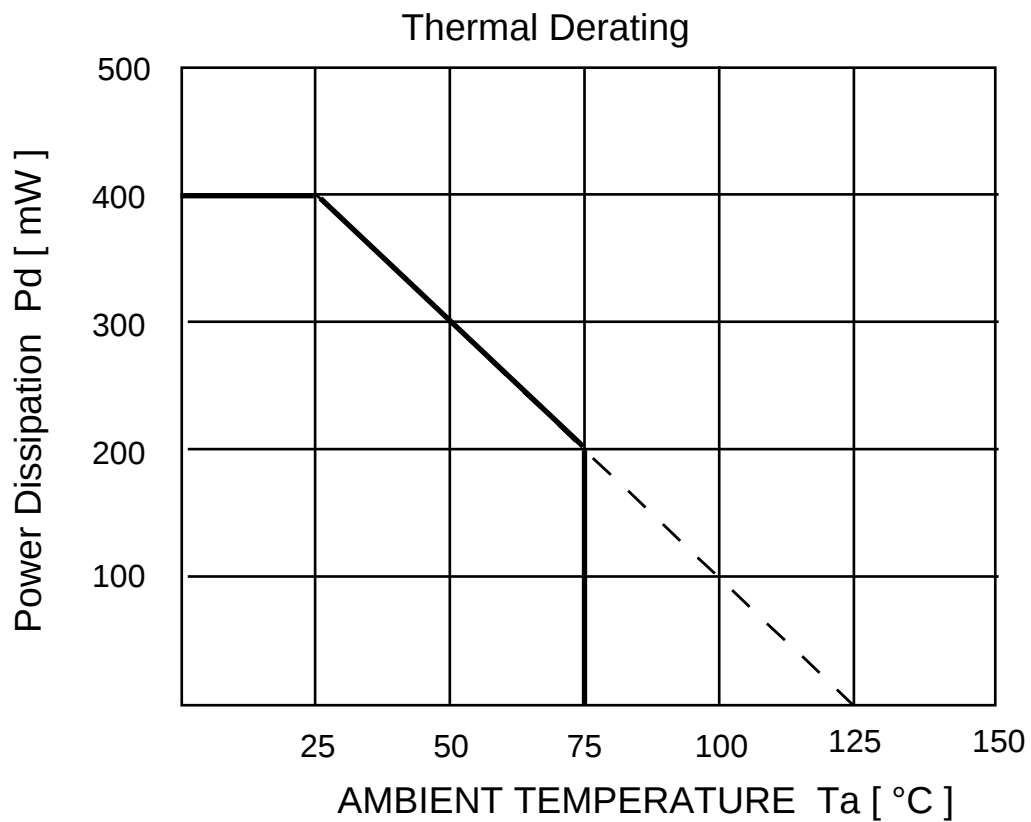


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## ABSOLUTE MAXIMUM RATINGS

| Symbol           | Parameter             | Conditions         | Ratings    | Unit  |
|------------------|-----------------------|--------------------|------------|-------|
| V <sub>cc</sub>  | Supply Voltage        |                    | 13.0       | V     |
| P <sub>d</sub>   | Power Dissipation     | T <sub>a</sub> <25 | 400        | mW    |
| K <sub>θ</sub>   | Thermal Derating      | T <sub>a</sub> >25 | 4          | mW/°C |
| T <sub>opr</sub> | Operating Temperature |                    | -20 to 75  | °C    |
| T <sub>stg</sub> | Storage Temperature   |                    | -40 to 125 | °C    |



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## RECOMMENDED OPERATING CONDITION

| Symbol          | Parameter                | Conditions      | Min. | Typ. | Max.            | Unit |
|-----------------|--------------------------|-----------------|------|------|-----------------|------|
| V <sub>CC</sub> | Supply Voltage           |                 | 4.5  | 9.0  | 12.0            | V    |
| V <sub>IH</sub> | High Level Input Voltage | Pin-7 (SRS on)  | 2.1  | —    | V <sub>DD</sub> | V    |
| V <sub>IL</sub> | Low Level Input Voltage  | Pin-7 (SRS off) | 0    | —    | 0.8             | V    |

## ELECTRICAL CHARACTERISTICS

### (1) Power Supply Characteristics

| Symbol          | Parameter       | Conditions | Min. | Typ. | Max. | Unit |
|-----------------|-----------------|------------|------|------|------|------|
| I <sub>CC</sub> | Circuit Current |            | —    | 15   | 30   | mA   |

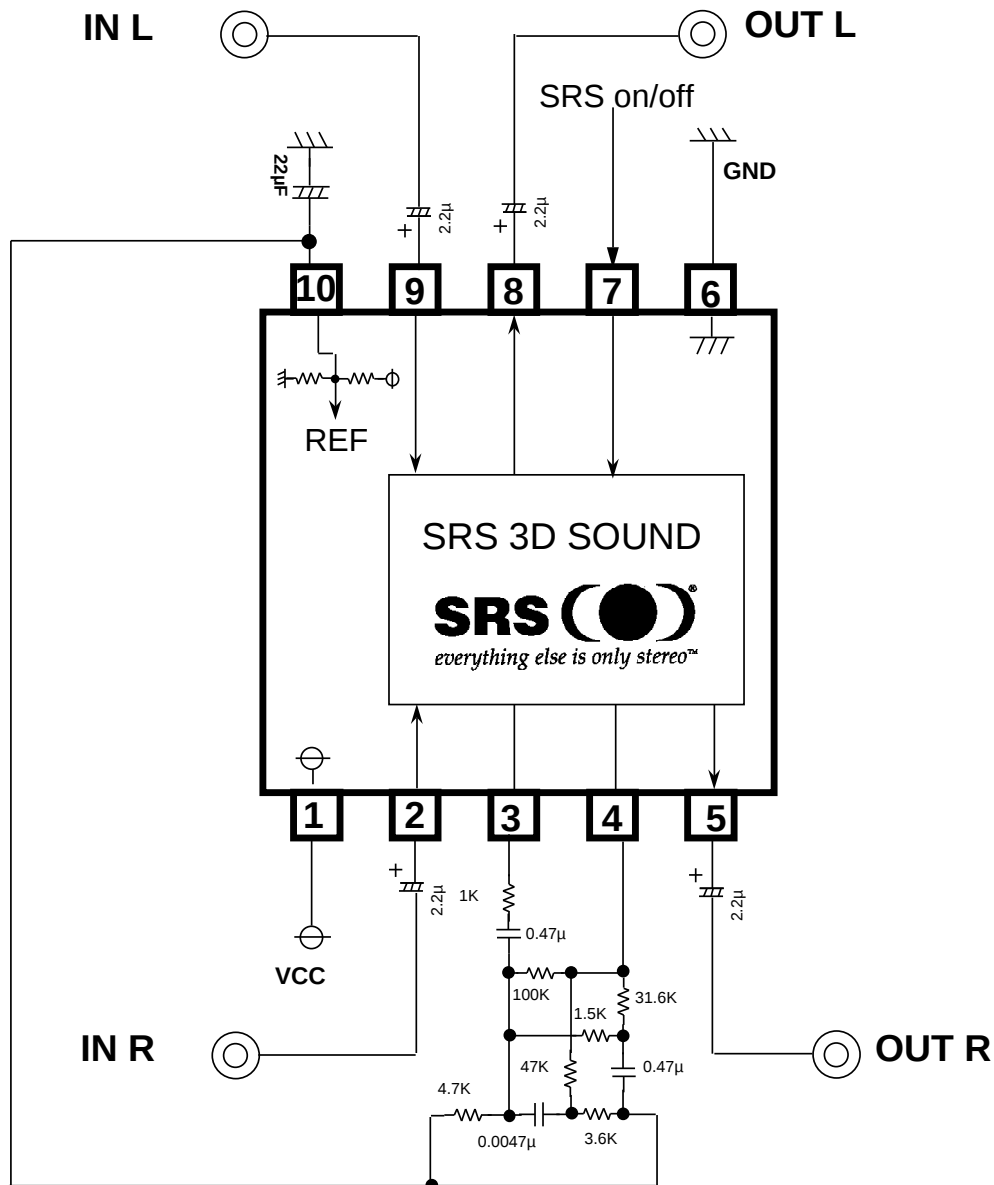
### (2) -1 Input / Output Characteristics (V<sub>CC</sub>=9V, T<sub>a</sub>=25°C, V<sub>i</sub>=500mV<sub>rms</sub>)

| Symbol           | Parameter                    | Conditions                       |                                                | Conditions | Limit |       |       | Unit              |
|------------------|------------------------------|----------------------------------|------------------------------------------------|------------|-------|-------|-------|-------------------|
|                  |                              | Input                            | Output                                         |            | Min.  | Typ.  | Max.  |                   |
| G <sub>v1</sub>  | Input - Output Voltage Gain1 | f=1kHz                           | R <sub>L</sub> =10KW                           | SRS off    | -3    | 0     | +3    | dB                |
| G <sub>v2</sub>  | Input - Output Voltage Gain2 | f=1kHz                           | R <sub>L</sub> =10KW                           | SRS on     | +3.5  | +6.5  | +9.5  | dB                |
| G <sub>v3</sub>  | Input - Output Voltage Gain3 | f=100Hz                          | R <sub>L</sub> =10KW                           | SRS on     | +9.5  | +12.5 | +15.5 | dB                |
| G <sub>v4</sub>  | Input - Output Voltage Gain4 | f=10KHz                          | R <sub>L</sub> =10KW                           | SRS on     | +7    | +10   | +13   | dB                |
| V <sub>OM</sub>  | Maximum Output Voltage       | f=1kHz                           | THD=1%<br>IHF-A filter<br>R <sub>L</sub> =10KW | SRS on/off | 1.8   | 2.2   | —     | V <sub>rms</sub>  |
| THD              | Total Harmonic Distortion    | f=1kHz<br>V <sub>i</sub> =-10dBv | DIN-A filter<br>R <sub>L</sub> =10KW           | SRS off    | —     | 0.01  | 0.05  | %                 |
| V <sub>NO1</sub> | Output Noise Voltage1        |                                  | IHF-A filter                                   | SRS off    | —     | 5     | 10    | μV <sub>rms</sub> |
| V <sub>NO2</sub> | Output Noise Voltage2        |                                  | IHF-A filter                                   | SRS on     | —     | 50    | 100   | μV <sub>rms</sub> |

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## APPLICATION EXAMPLE



Unit R:W  
C: F

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## Keep safety first in your circuit designs !

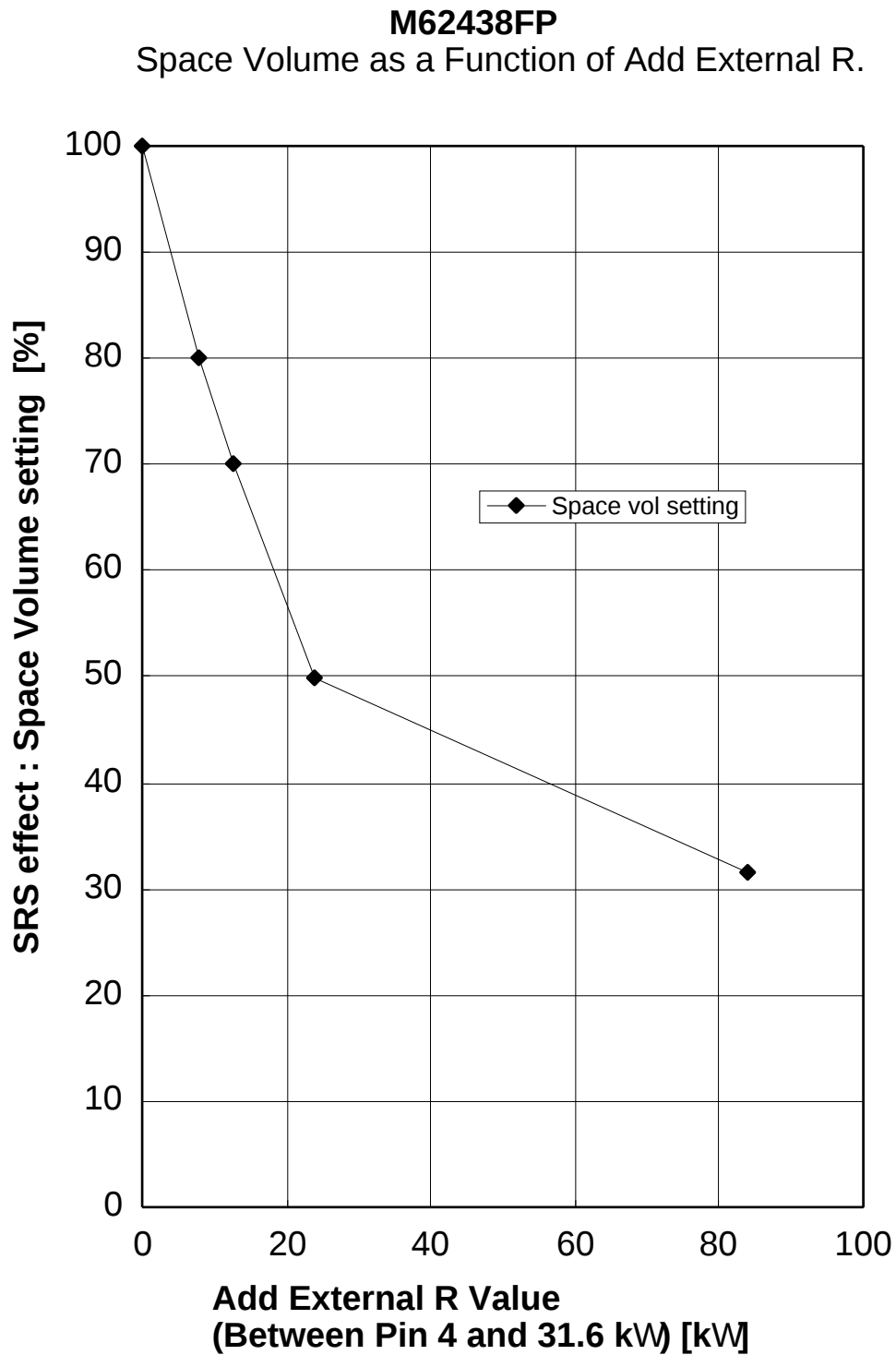
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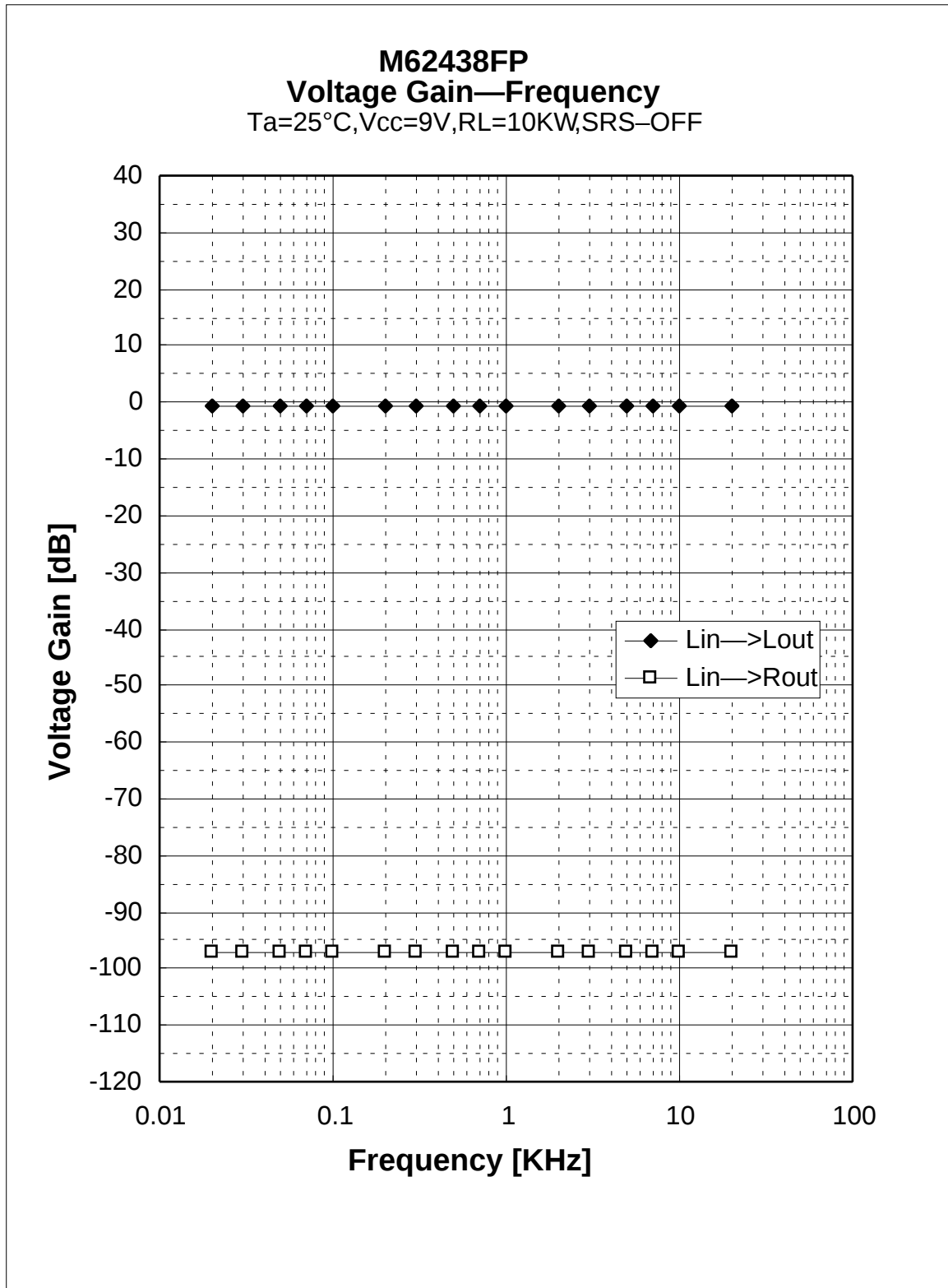
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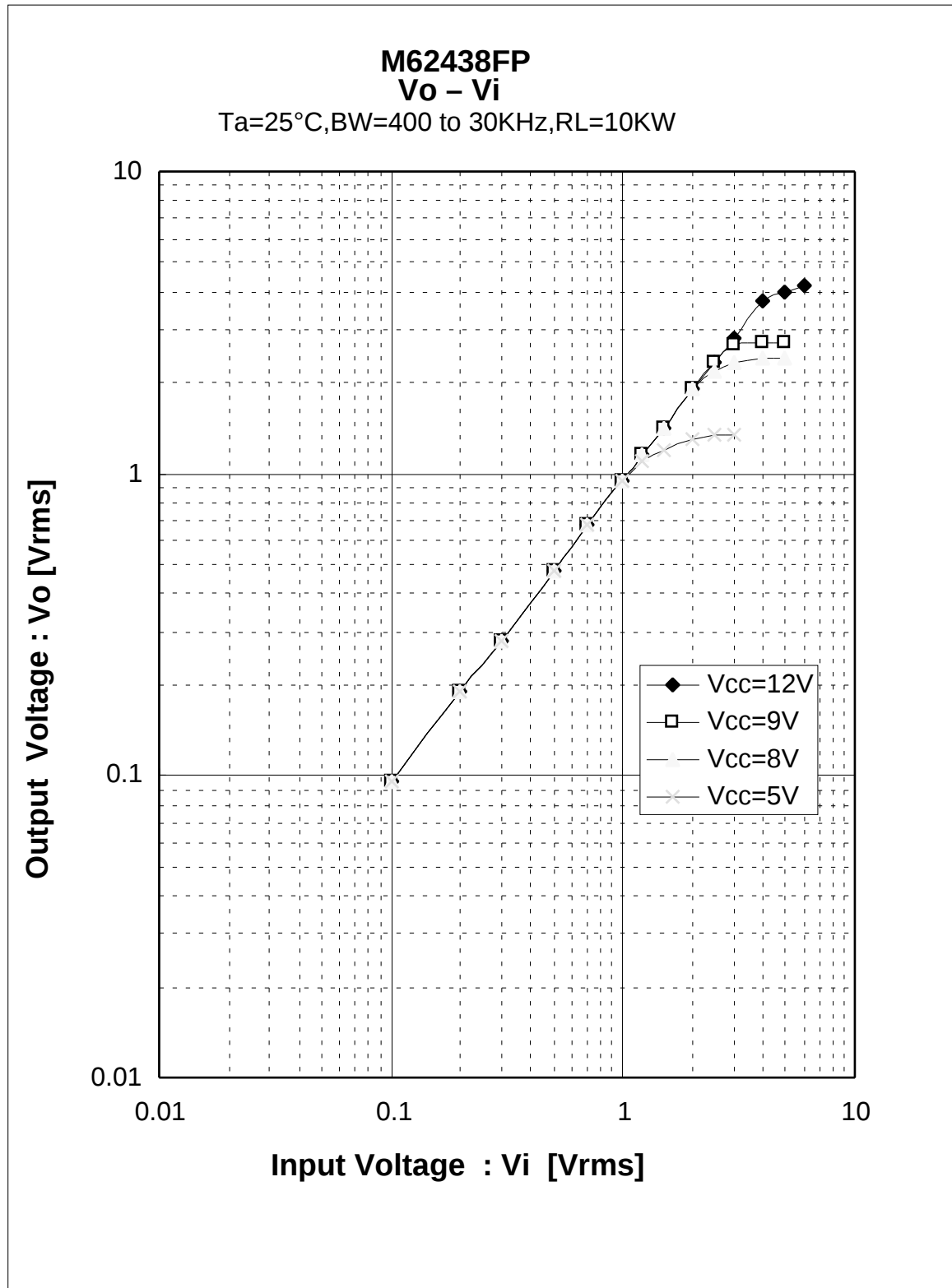
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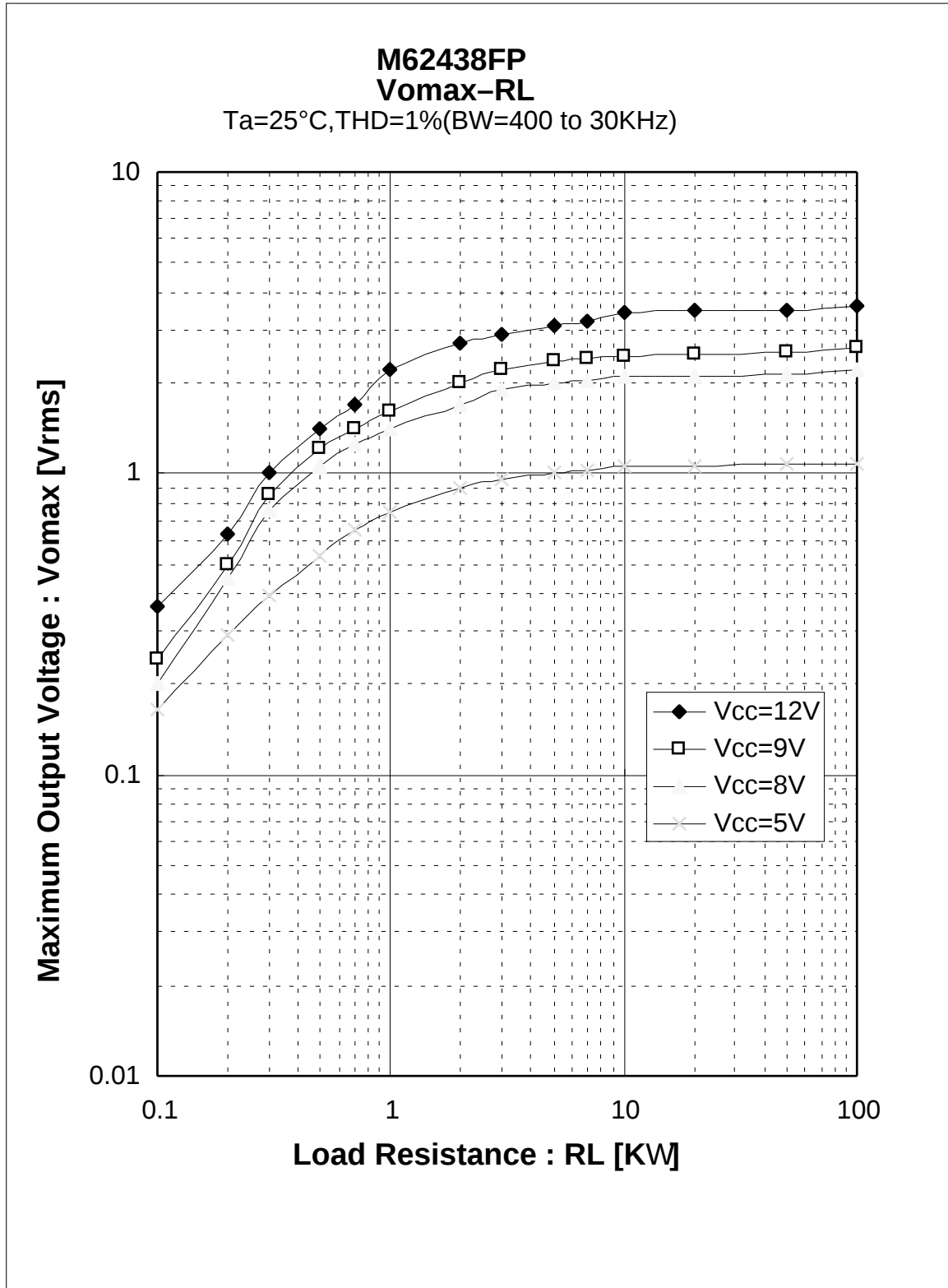
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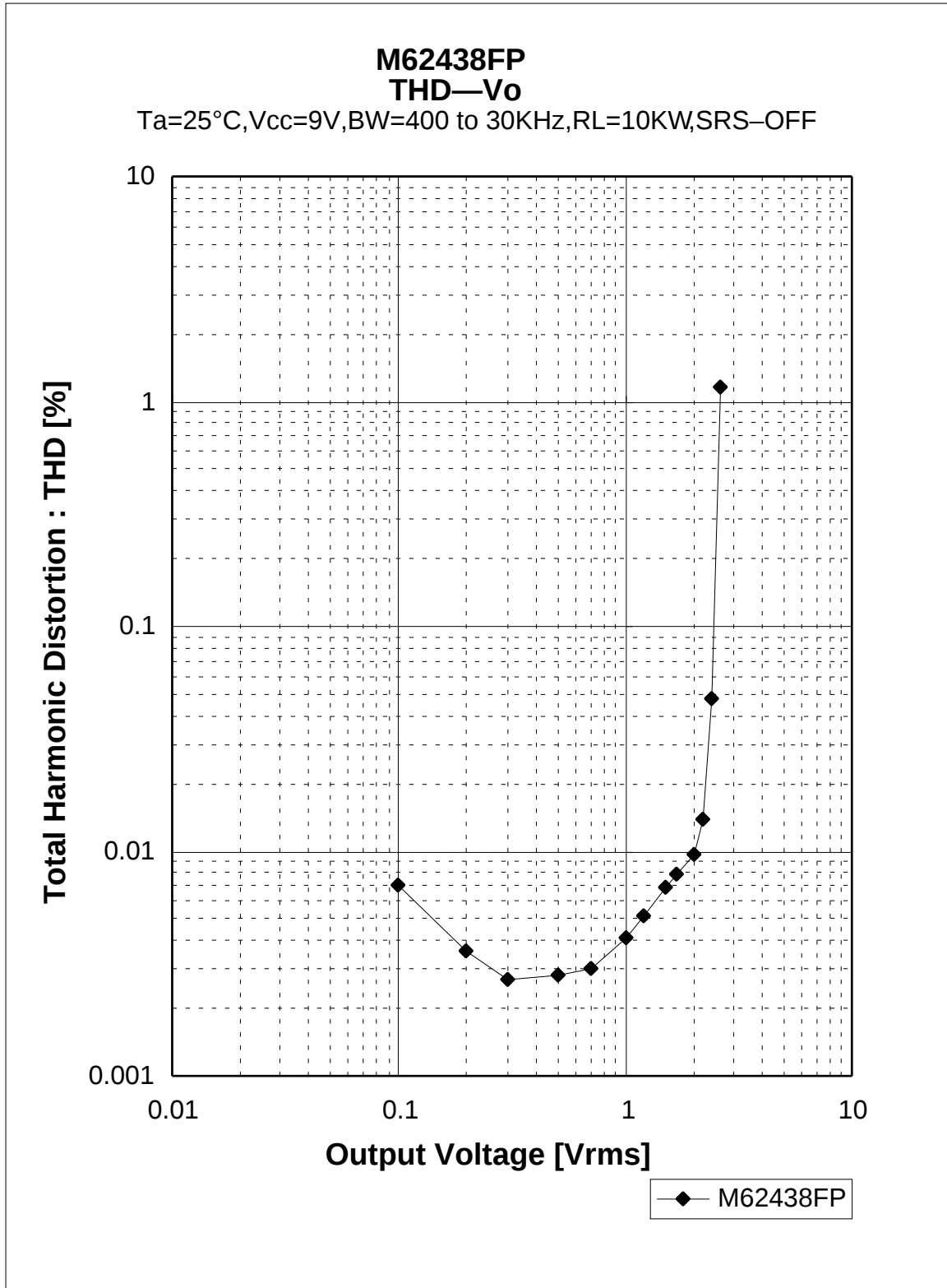
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