

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



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

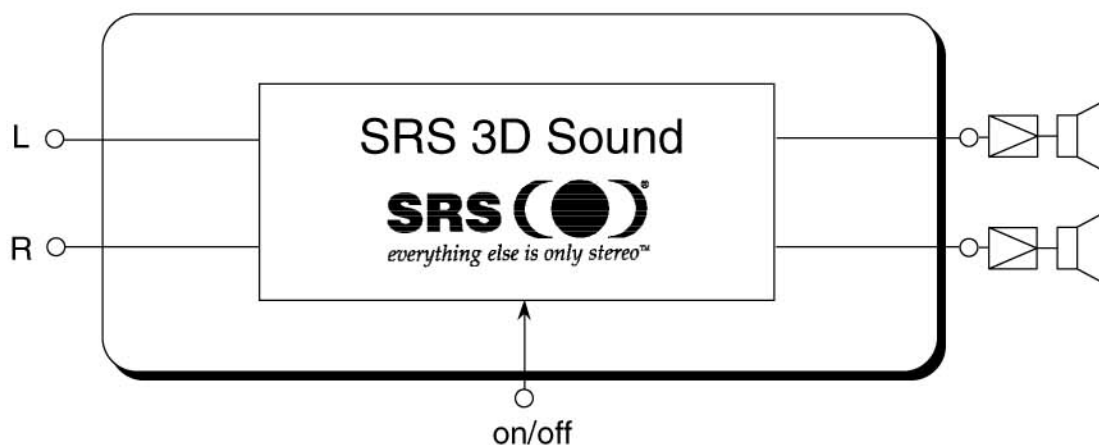
Note !!

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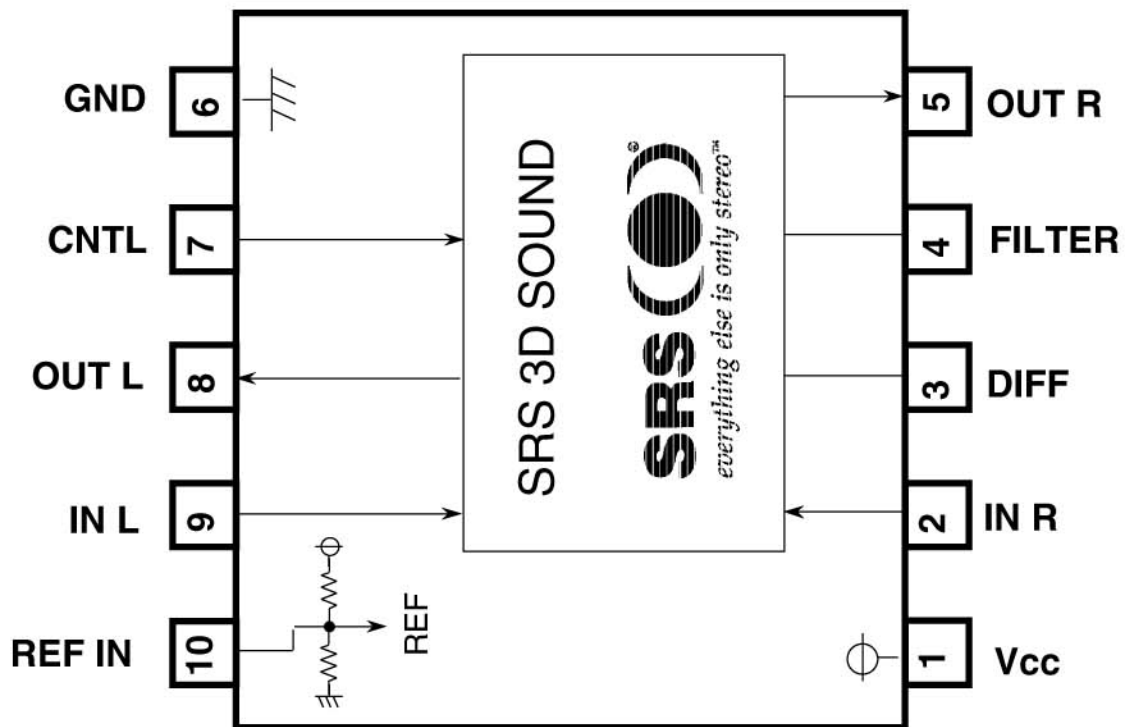
SYSTEM BLOCK DIAGRAM



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BLOCK DIAGRAM

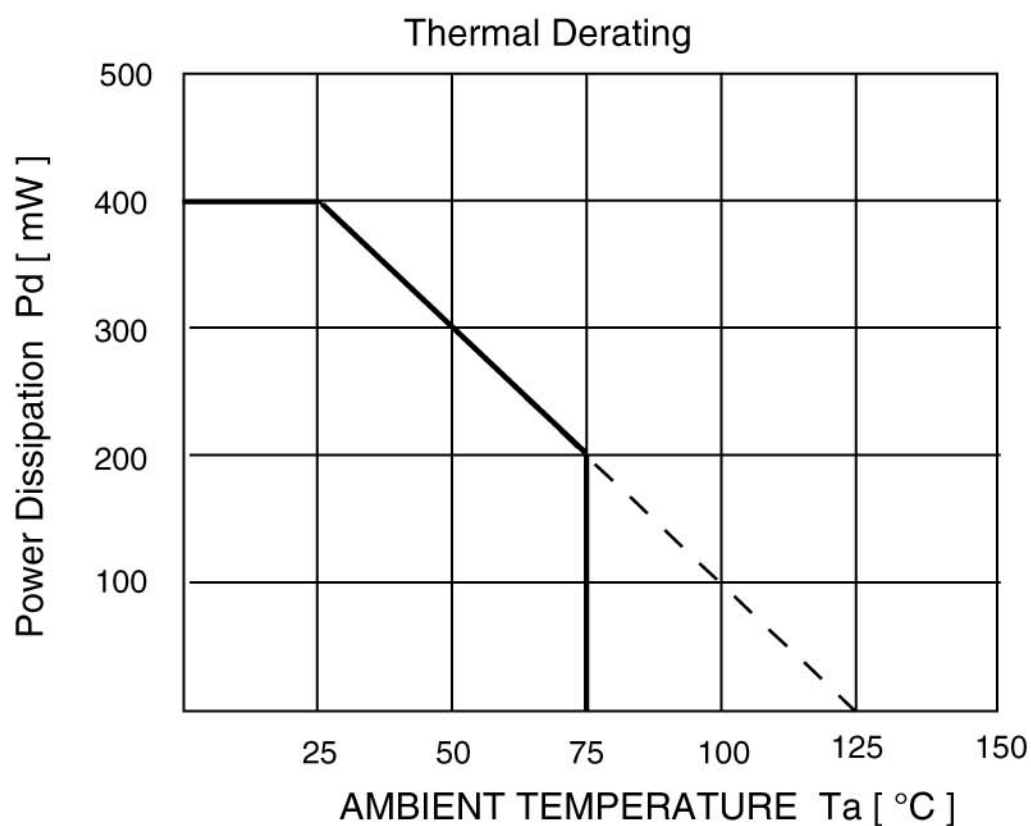


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ABSOLUTE MAXIMUM RATINGS

Symbol	Parameter	Conditions	Ratings	Unit
V _{cc}	Supply Voltage		13.0	V
P _d	Power Dissipation	T _a <25	400	mW
K _θ	Thermal Derating	T _a >25	4	mW/°C
T _{opr}	Operating Temperature		-20 to 75	°C
T _{stg}	Storage Temperature		-40 to 125	°C



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RECOMMENDED OPERATING CONDITION

Symbol	Parameter	Conditions	Min.	Typ.	Max.	Unit
V _{CC}	Supply Voltage		4.5	9.0	12.0	V
V _{IH}	High Level Input Voltage	Pin-7 (SRS on)	2.1	—	V _{DD}	V
V _{IL}	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 _{CC}	Circuit Current		—	15	30	mA

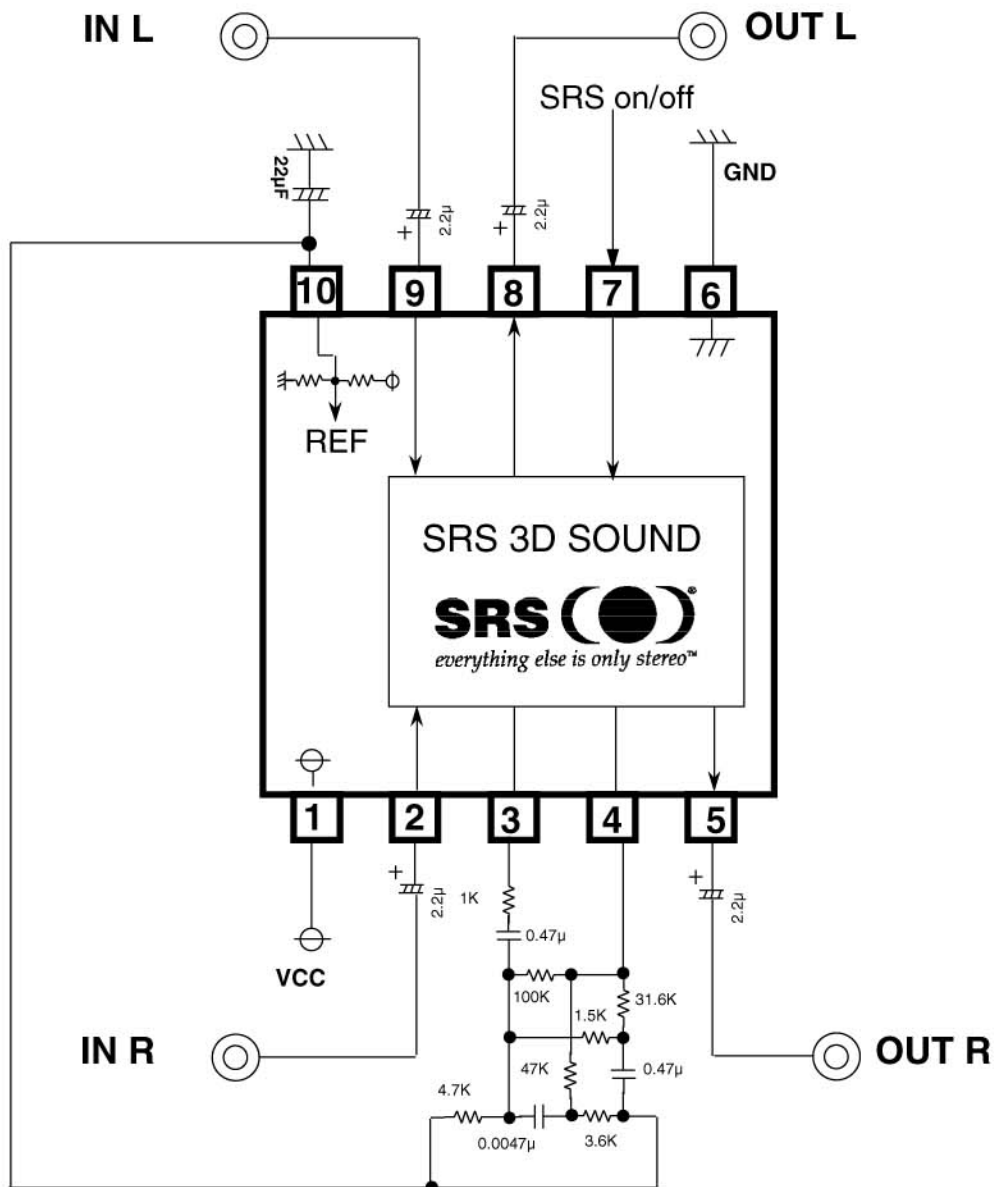
(2) -1 Input / Output Characteristics (V_{CC}=9V, T_a=25°C, V_i=500mV_{rms})

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

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APPLICATION EXAMPLE



Unit R:Ω
C: F

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Keep safety first in your circuit designs !

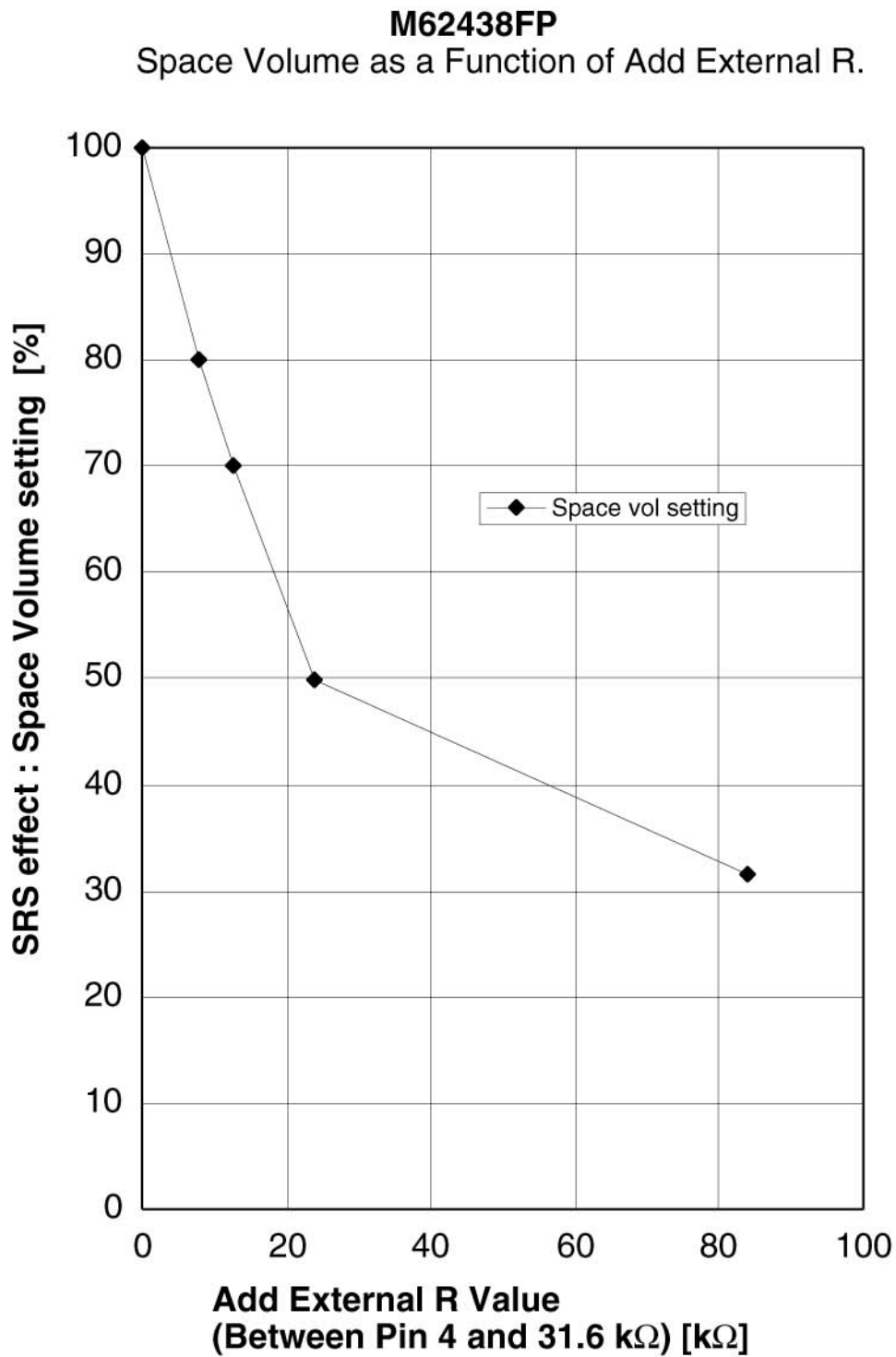
- Mitsubishi Electric Corporation puts the maximum effort into making semiconductor products better and more reliable, but there is always the possibility that trouble may occur with them. Trouble with semiconductors may lead to personal injury, fire or property damage. Remember to give due consideration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

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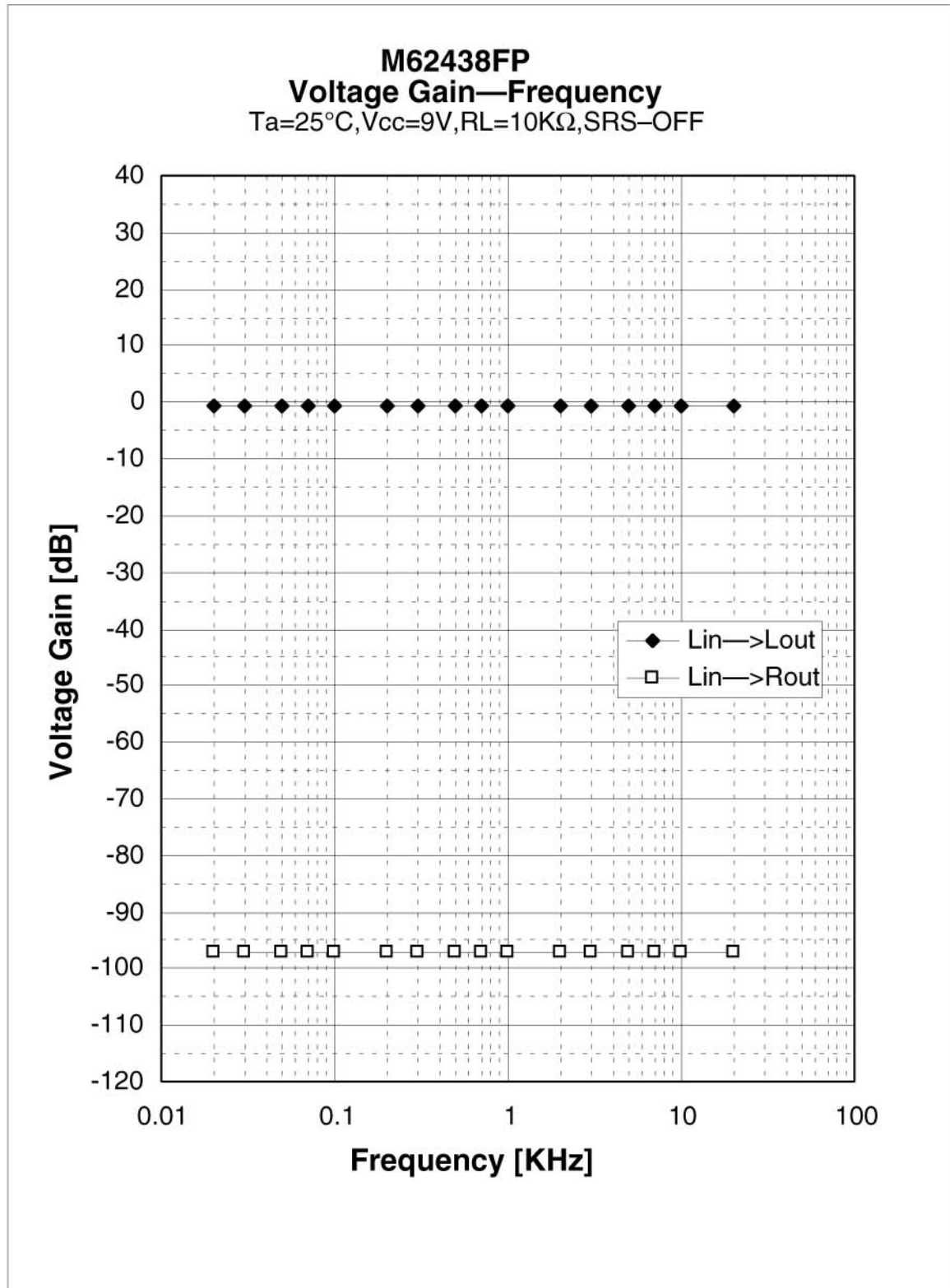
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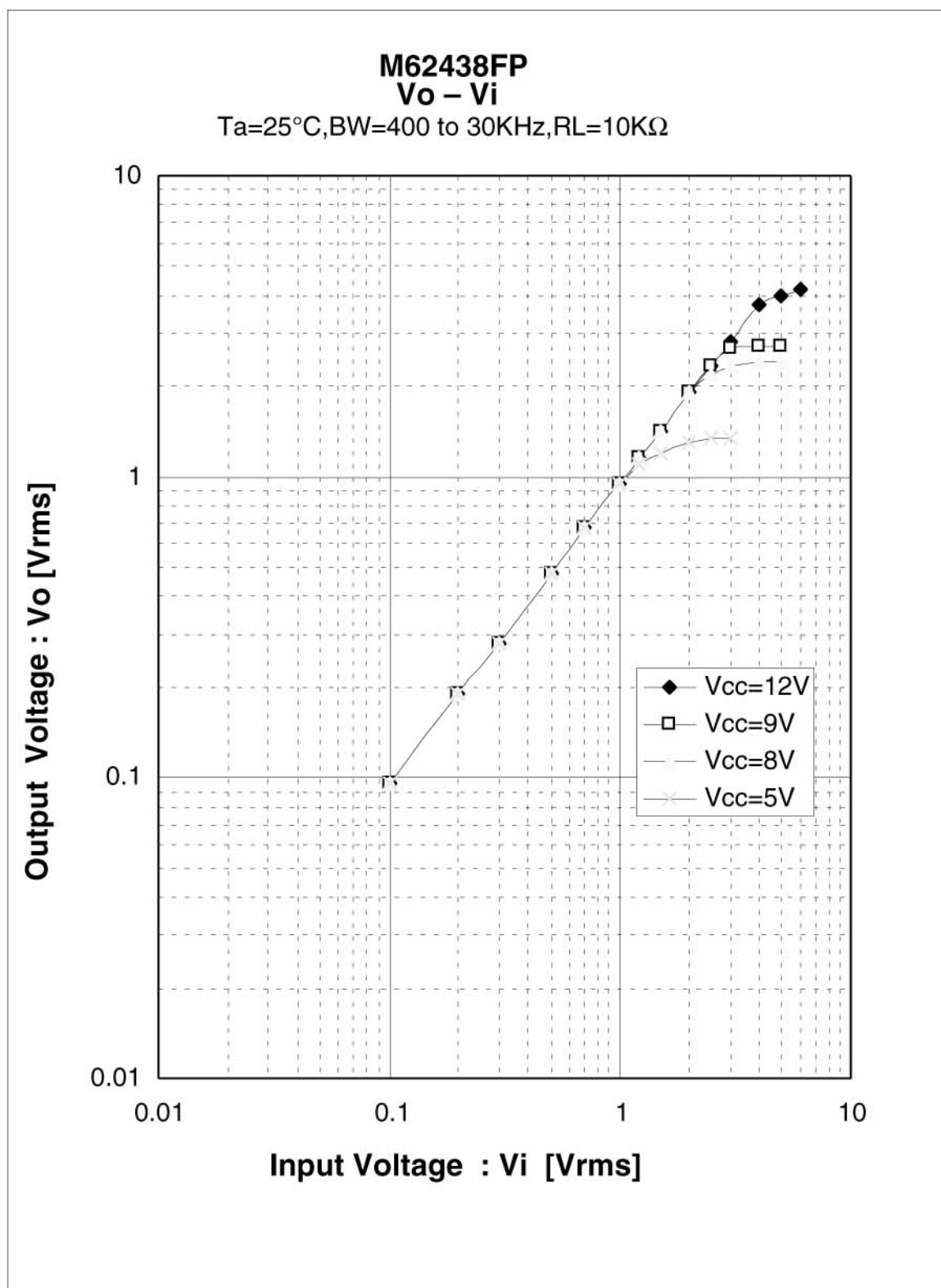
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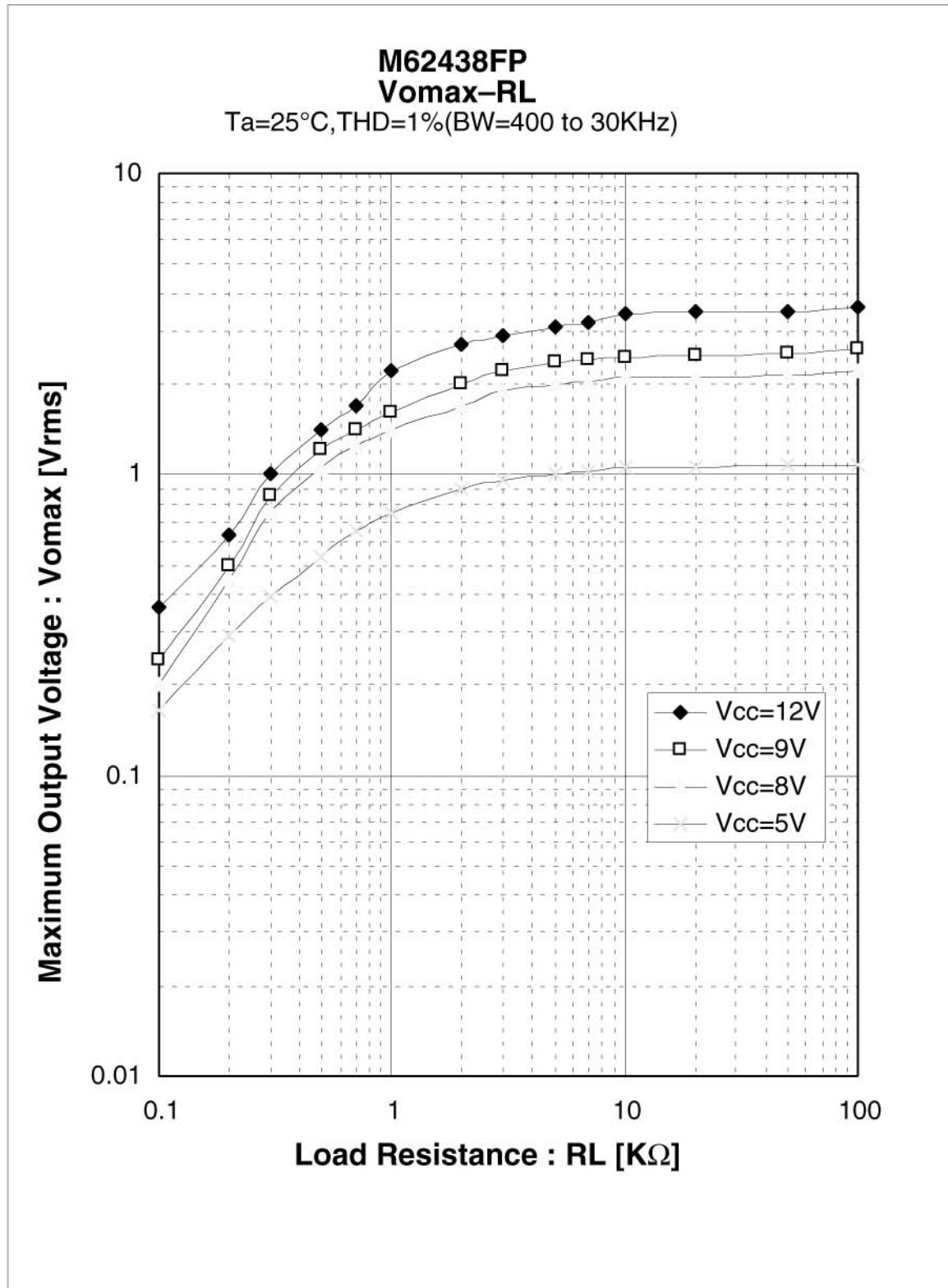
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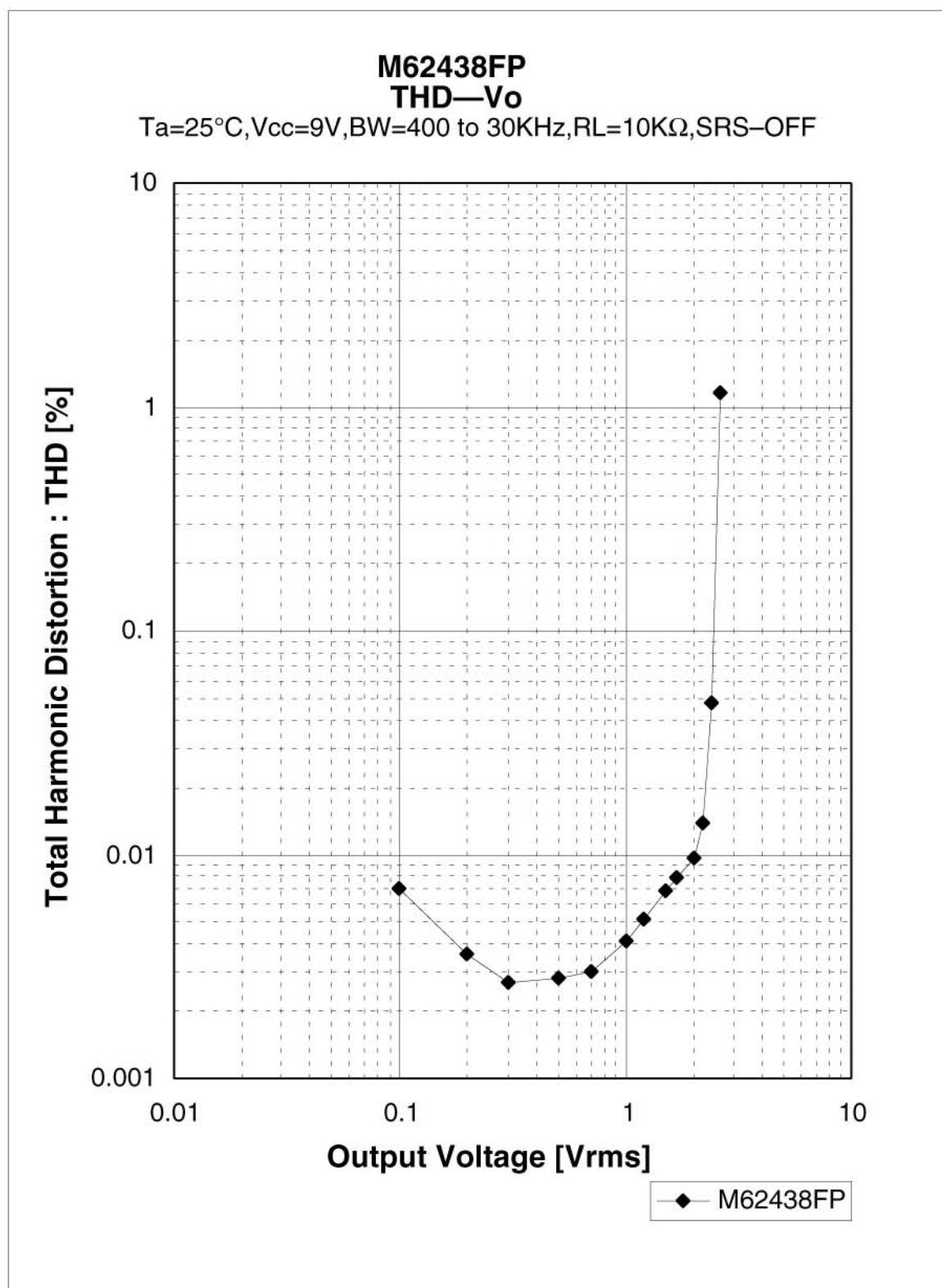
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