

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)

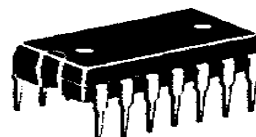
APPLICATION

- PC, TV, Mini Stereo, etc

RECOMMENDED OPERATING CONDITION

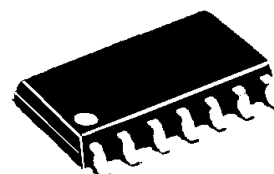
- Supply voltage range 4.5 ~ 12.0V
- Rated supply voltage 9V

PACKAGE OUTLINE



14Pin DIP

Size:19 mmX6.3mmX2.54mm



14Pin SOP

Size:10.1 mmX5.3mmX1.8mm

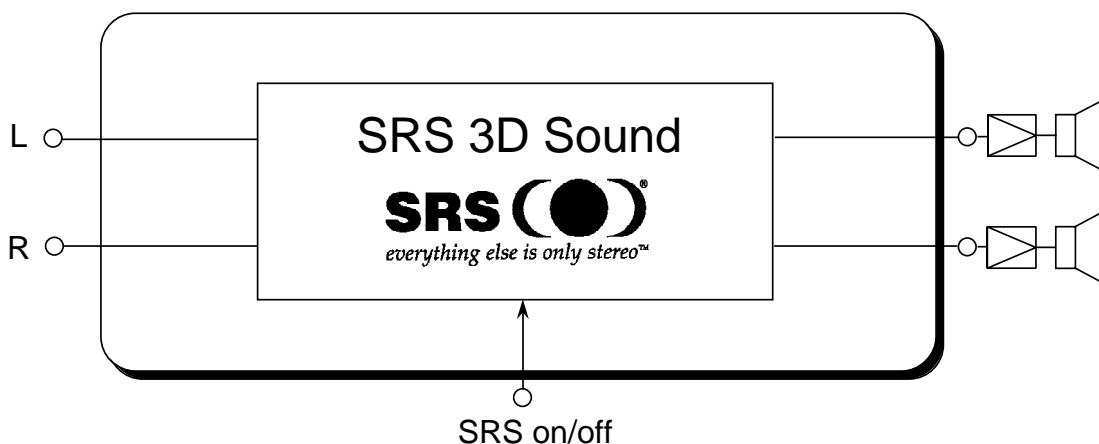
Note !!

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SYSTEM BLOCK DIAGRAM



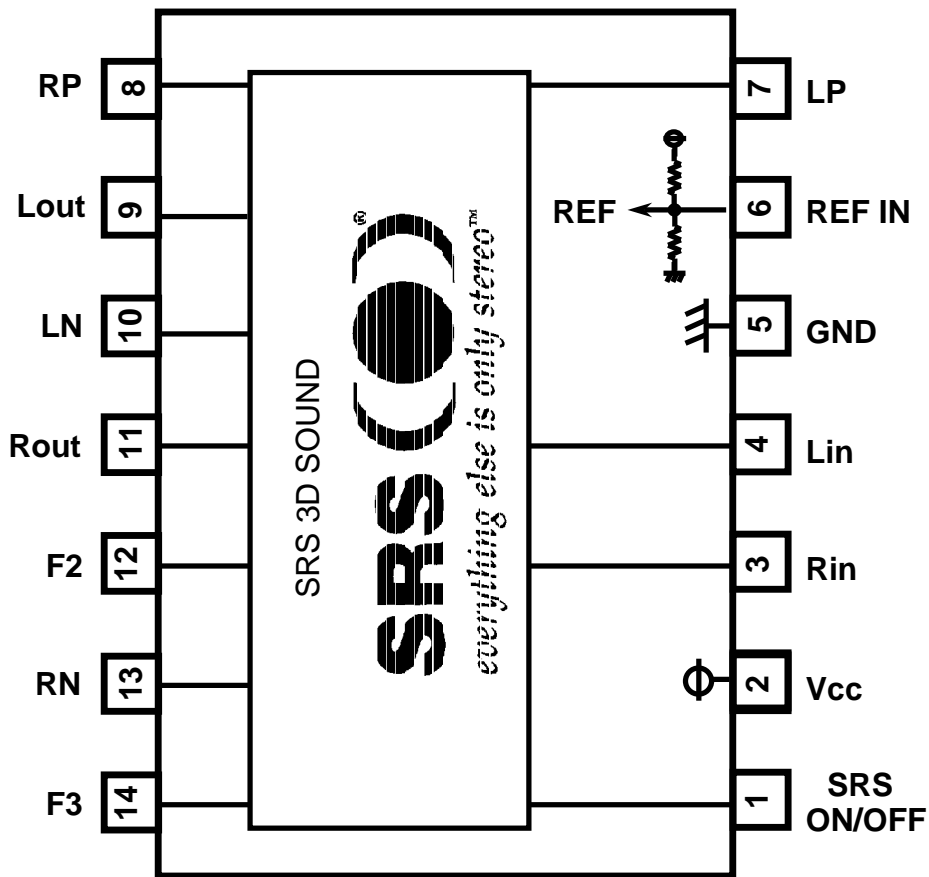
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BLOCK DIAGRAM

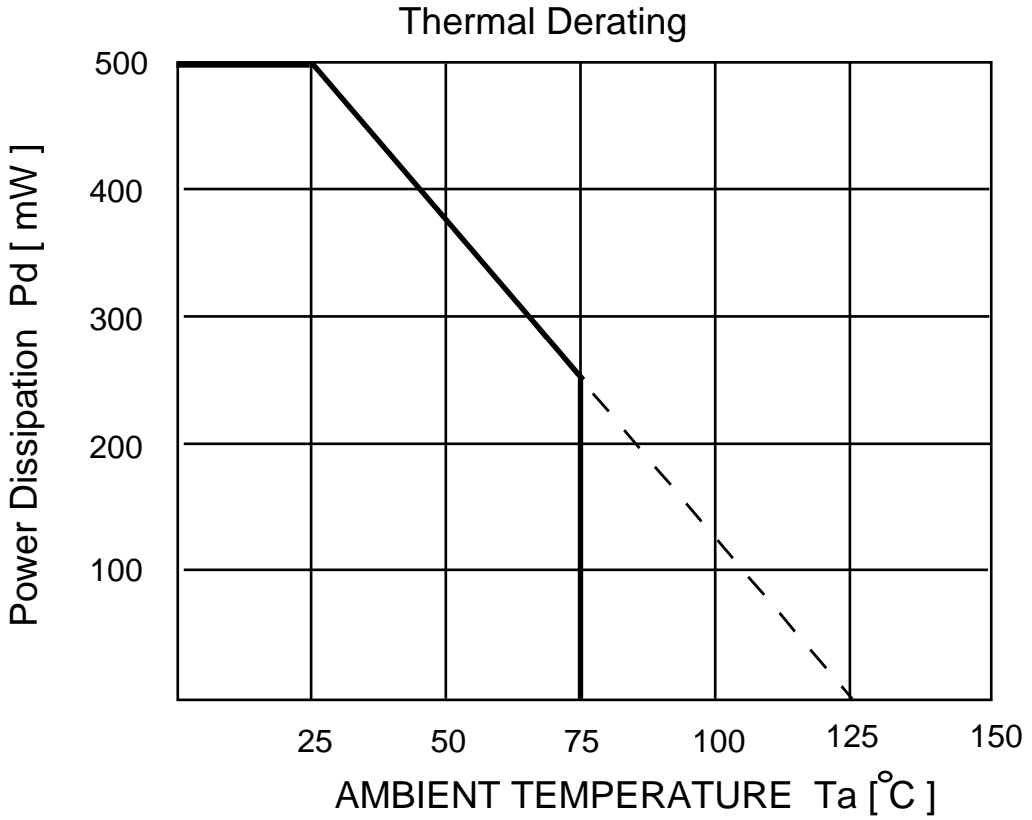


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ABSOLUTE MAXIMUM RATINGS

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}

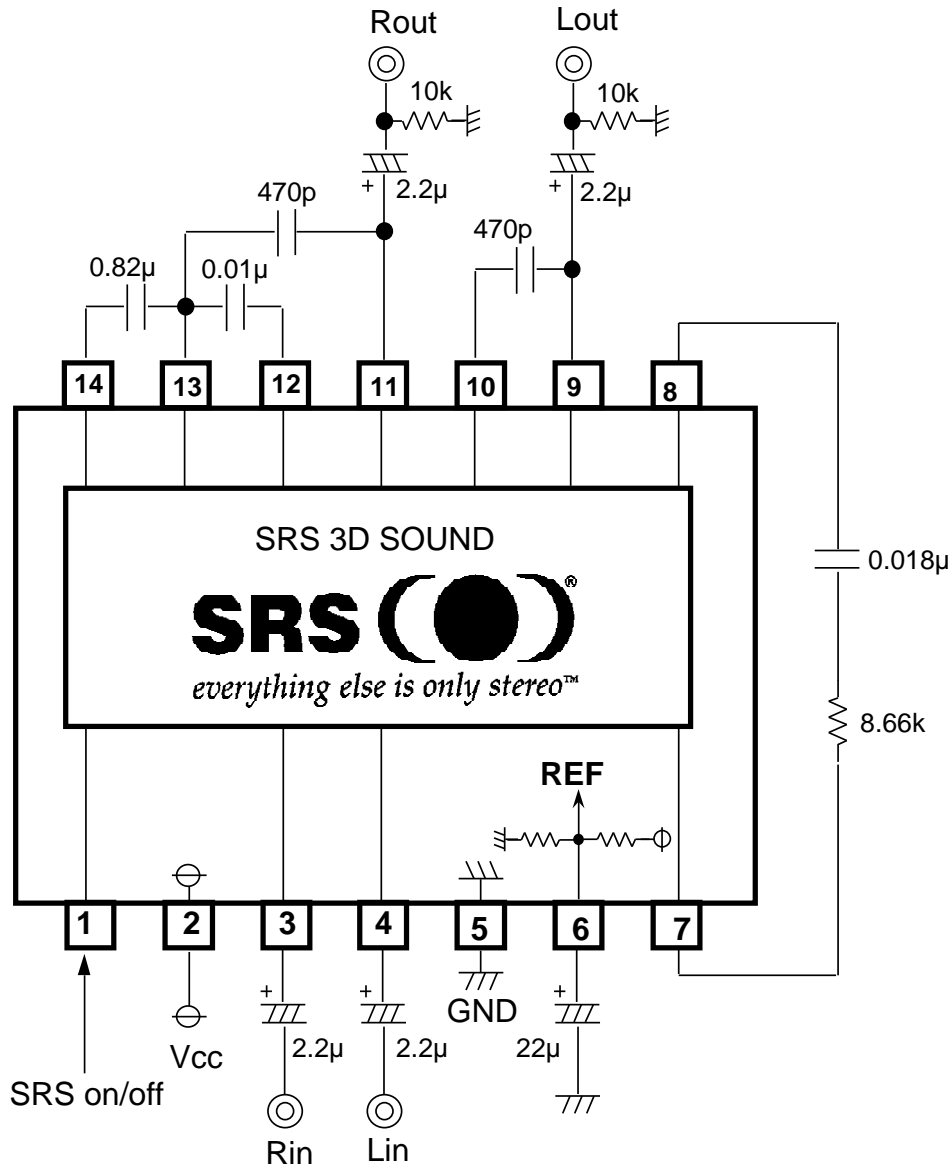
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APPLICATION EXAMPLE



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.

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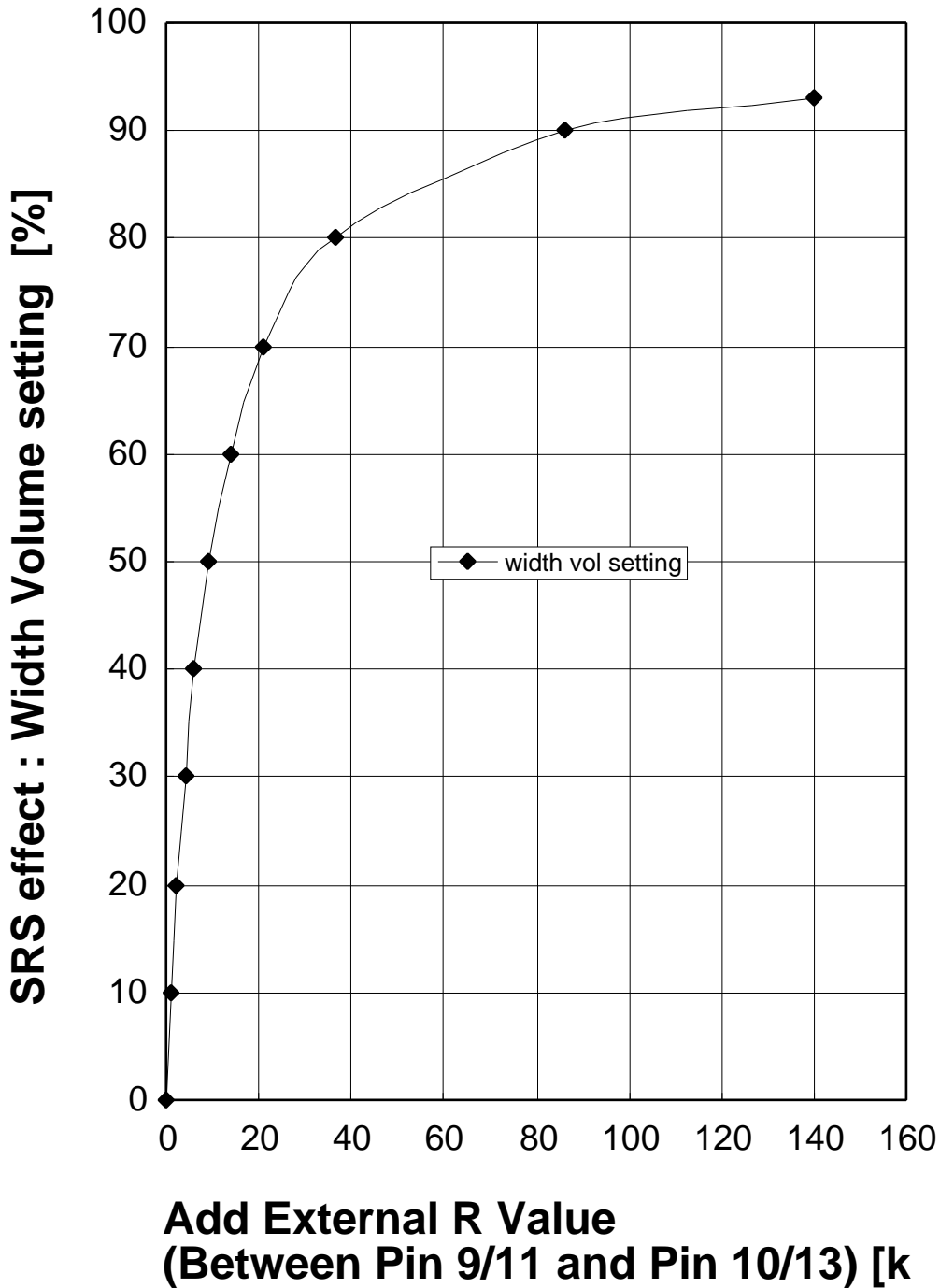
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M62455P/FP Width Volume as a Function of Add External R.

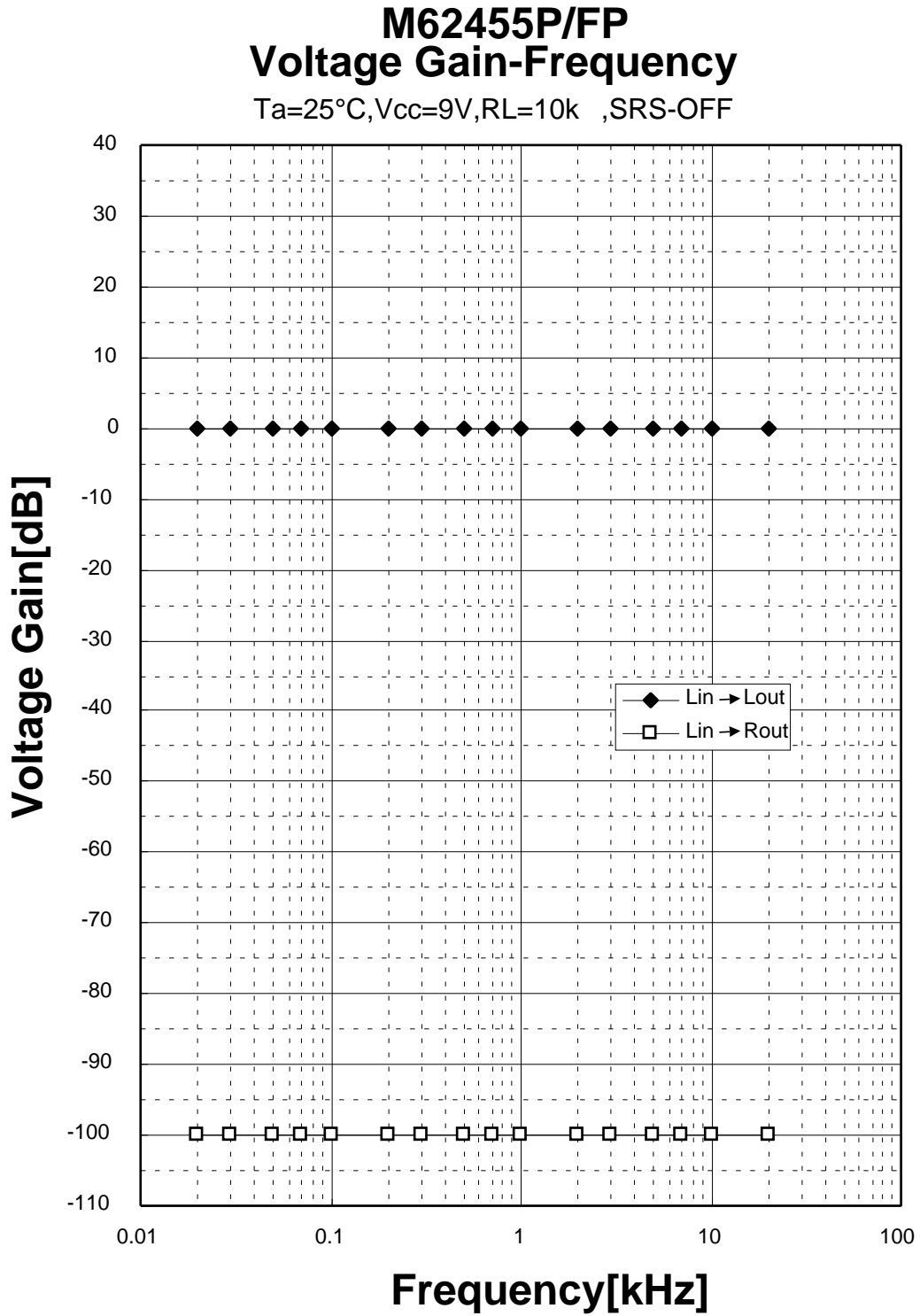


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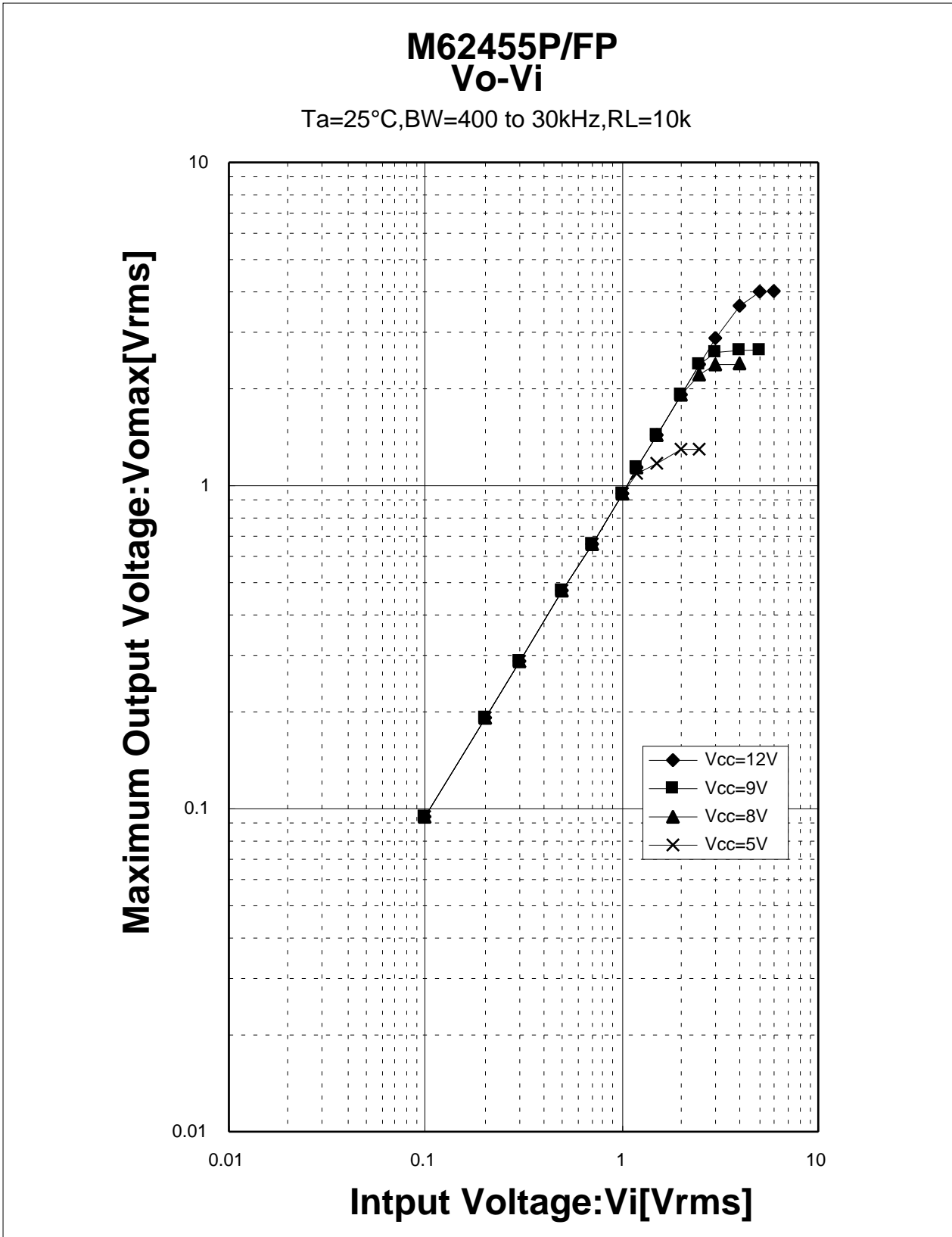


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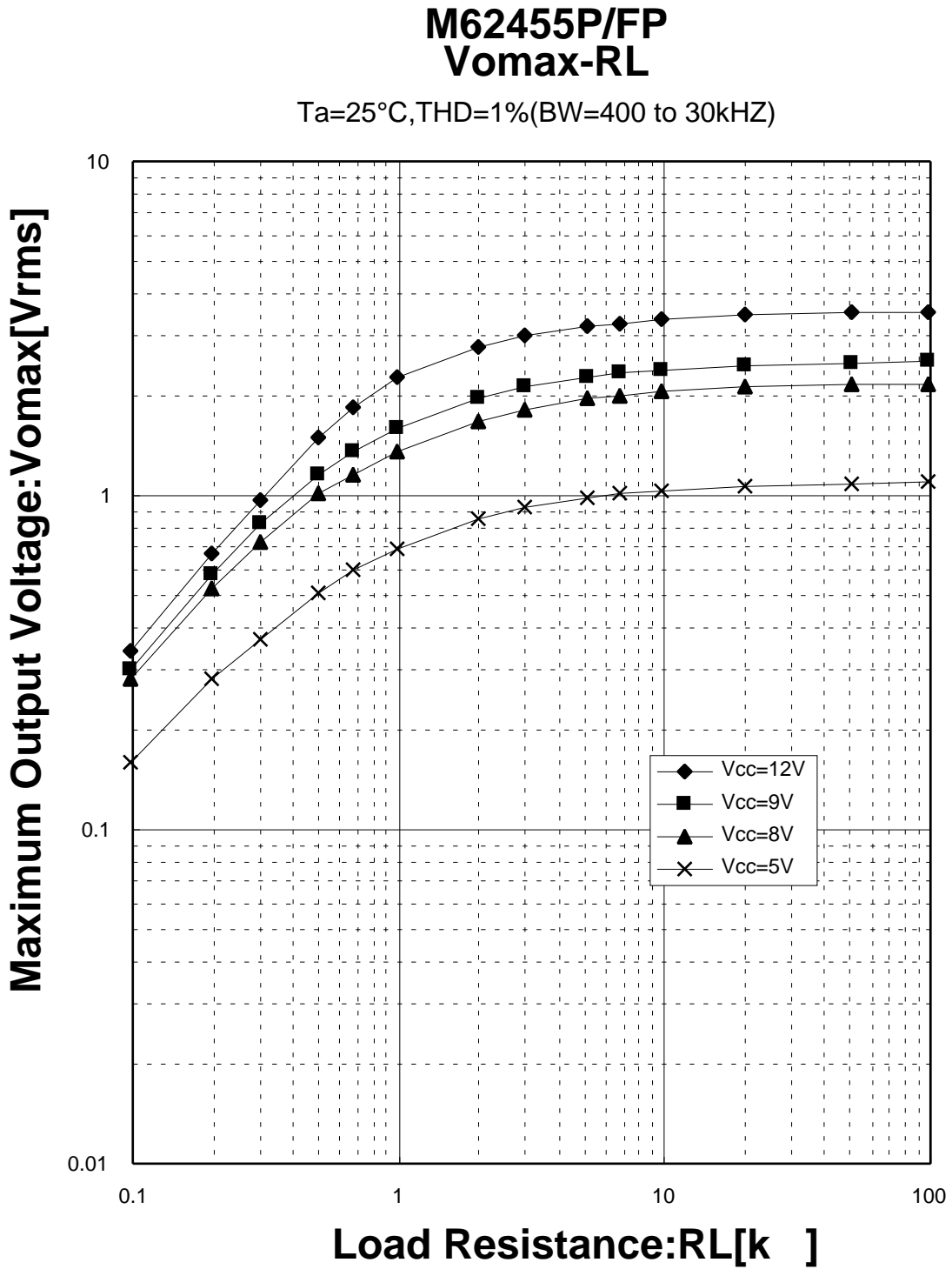


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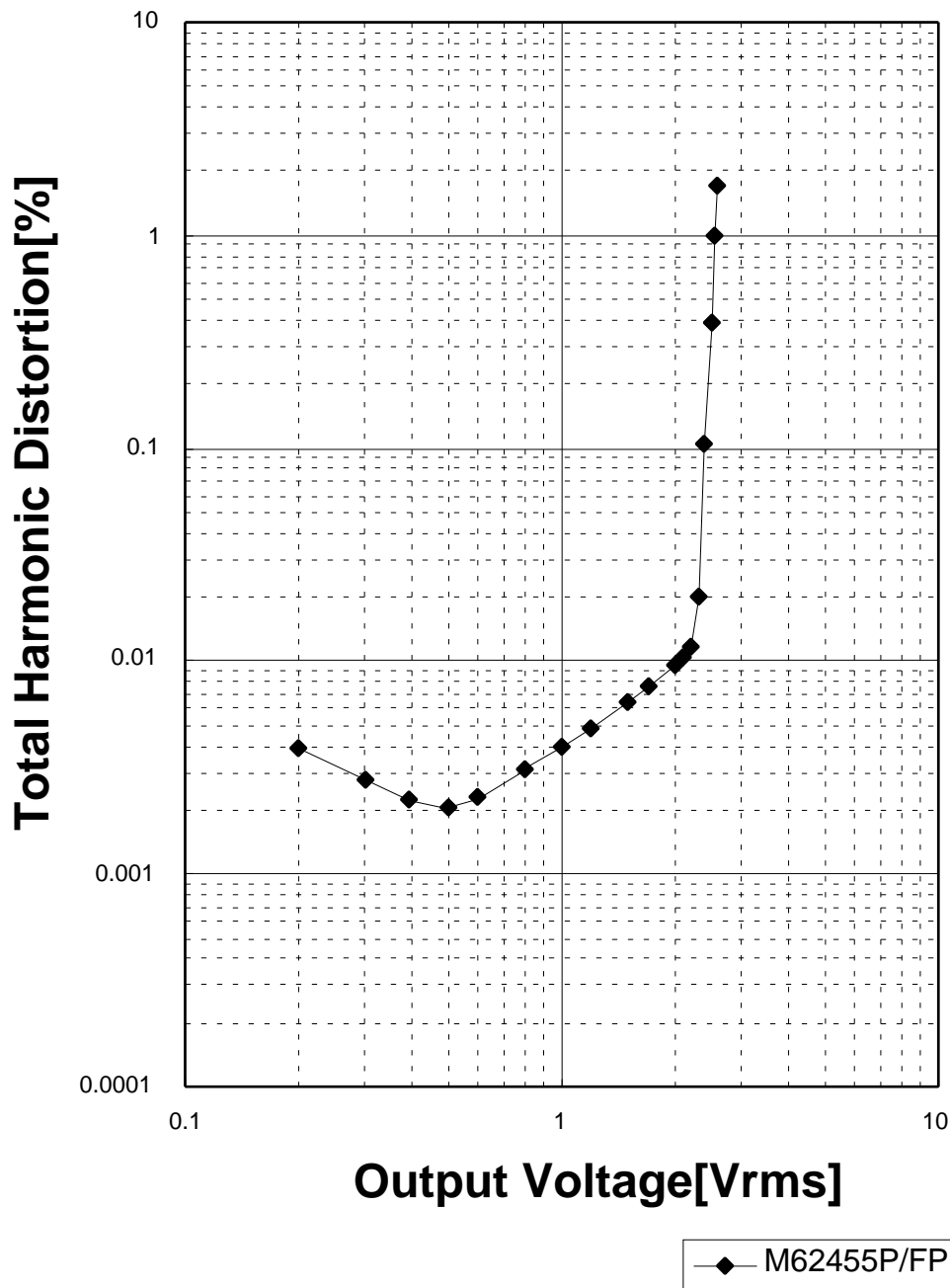
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SRS 3D SOUND PROCESSOR

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

