

LOW VOLTAGE POWER AMPLIFIER

■ GENERAL DESCRIPTION

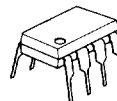
NJM2070 is a power amplification monolithic IC of wide Operating voltage range. It is applied for audio power amplifier in portable radio and handy cassette player.

■ FEATURES

- Operating Voltage
- Low Operating Current
- Package Outline
- Bipolar Technology

(1.8V ~ 15V)
4mA typ : $V^+ = 6V$)
DIP8, DMP8

■ PACKAGE OUTLINE

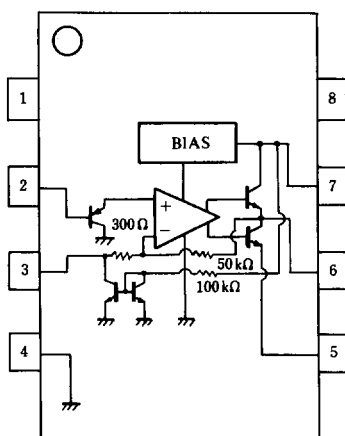


NJM2070D



NJM2070M

■ PIN CONFIGURATION



NJM2070D
NJM2070M

PIN FUNCTION

1. NC
2. +INPUT
3. -INPUT
4. GND
5. GND
6. OUTPUT
7. V^+
8. NC



■ ABSOLUTE MAXIMUM RATINGS

(Ta=25°C)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V ⁺	15	V
Output Peak Current	I _{OP}	1	A
Power Dissipation	P _D	(DIP8) 700	mW
		(DMP8) 500 (note)	mW
Operating Temperature Range	T _{opr}	-20~+75	°C
Storage Temperature Range	T _{stg}	-40~+125	°C

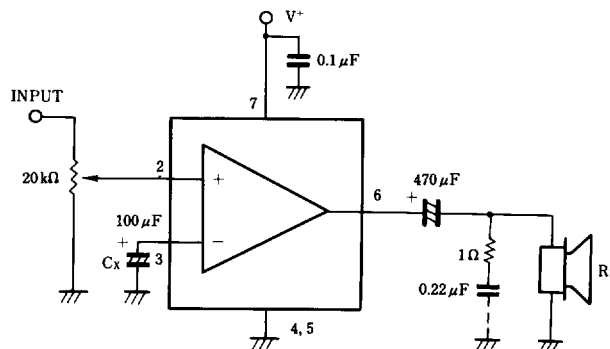
(note) At on PC board

■ ELECTRICAL CHARACTERISTICS

(V⁺=6V, Ta=25°C)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Operating Voltage	V ⁺		1.8	—	15	V
Output Voltage	V _O		—	2.7	—	V
Operating Current	I _{CC}	R _L = ∞	—	4	7	mA
Input Bias Current	I _{IB}		—	200	—	nA
Output Power	P _O	THD=10%, f=1kHz				
		V ⁺ =6V, R _L =4Ω	0.5	0.6	—	W
		V ⁺ =4.5V, R _L =4Ω	—	0.32	—	W
		V ⁺ =3V, R _L =4Ω	—	120	—	mW
		V ⁺ =2V, R _L =4Ω	—	30	—	mW
		THD=1%, f=1kHz				
		V ⁺ =6V, R _L =4Ω	—	500	—	mW
		V ⁺ =4.5V, R _L =4Ω	—	250	—	mW
Total Harmonic Distortion	THD	P _O =0.4W, R _L =4Ω, f=1kHz	—	0.25	—	%
Voltage Gain	A _V	f=1kHz	41	44	47	dB
Input Impedance	Z _{IN}	f=1kHz	100	—	—	kΩ
Equivalent Input Noise Voltage	V _{NH}	R _S =10kΩ, A Curve	—	2.5	—	μV
	V _{NI2}	R _S =10kΩ, B=22Hz~22kHz	—	3	—	μV
Ripple Rejection	RR	f=100Hz, C _X =100μF	24	30	—	dB
Cut Off Frequency	f _H	A _V =-3dB from f=1kHz	—	200	—	kHz
		R=8Ω, P _O =250mW				

■ TYPICAL APPLICATION AND TEST CIRCUIT



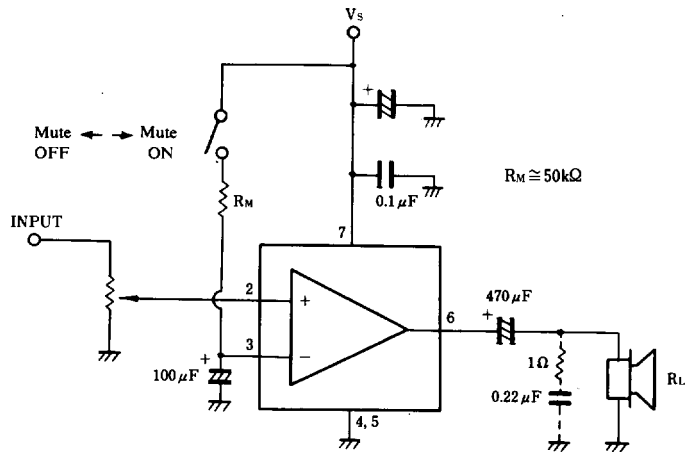
■ OSCILLATION PREVENTION

Put in series a 1Ω resistor and a 0.22 μF capacitor on parallel to load, if the load is speaker. Recommend putting in parallel between pin 4 and pin 7, 0.1 μF and more than 100 μF capacitors with good high frequency characteristics near to the ground and supply voltage pins on parallel.



NJM2070

■ MUTING CIRCUIT



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