Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!

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LOW VOLTAGE POWER AMPLIFIER

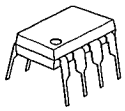
■ GENERAL DESCRIPTION

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 (1.8V～15V)
- Low Operating Current 4mA typ : V^+=6V)
- Package Outline DIP8, DMP8
- Bipolar Technology

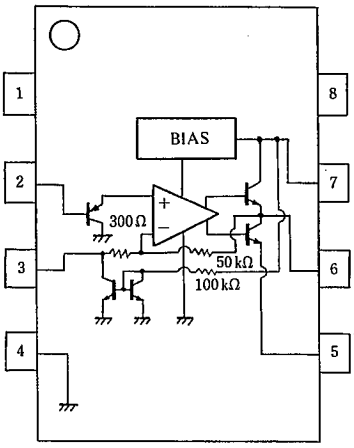
■ PACKAGE OUTLINE



NJM2070D

NJM2070M

■ PIN CONFIGURATION



NJM2070D
NJM2070M

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

5

■ ABSOLUTE MAXIMUM RATINGS

(Ta=25℃)

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V^+	15	V
Output Peak Current	I_{OP}	1	A
Power Dissipation	P_D	(DIP8) 700 (DMP8) 500 (note)	mW
Operating Temperature Range	T_{opr}	−40～+85	℃
Storage Temperature Range	T_{stg}	−40～+125	℃

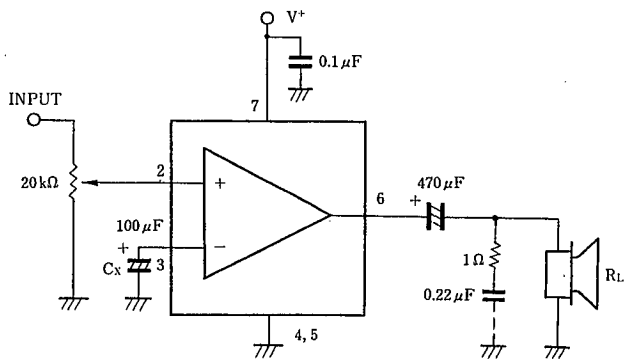
(note) At on PC board

■ ELECTRICAL CHARACTERISTICS

(V^+=6V, Ta=25℃)

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}	$R_L=\infty$	—	4	7	mA
Input Bias Current	I_{IB}		—	200	—	nA
Output Power		THD=10%, f=1kHz				
	P_O	V^+=6V, R_L=4Ω	0.5	0.6	—	W
	P_O	V^+=4.5V, R_L=4Ω	—	0.32	—	W
	P_O	V^+=3V, R_L=4Ω	—	120	—	mW
	P_O	V^+=2V, R_L=4Ω	—	30	—	mW
		THD=1%, f=1kHz				
	P_O	V^+=6V, R_L=4Ω	—	500	—	mW
	P_O	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_{NI1}	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 R=8Ω, P_O=250mW	—	200	—	kHz

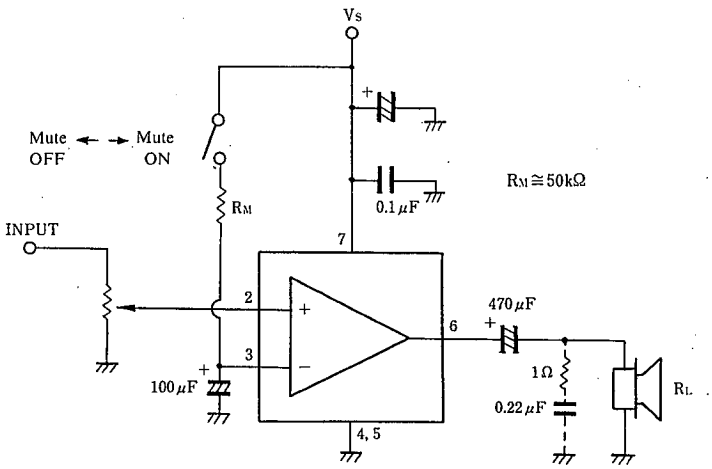
■ TYPICAL APPLICATION AND TEST CIRCUIT



■ 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.

■ MUTING CIRCUIT



MEMO