

MONORAL MIC AMP. for VIDEO CAMERA

■ GENERAL DESCRIPTION

NJM2110 is a monaural microphone amplifier for video camera. It can operate from 2.7V.

The performance is low Operating current and small package, therefore it is easy to design the downsizing and low consumption.

■ PACKAGE OUTLINE



NJM2110M



NJM2110V

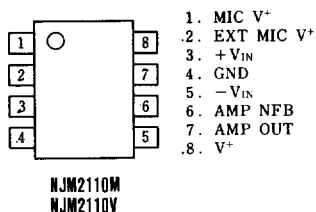
■ FEATURES

- Operating Voltage 2.7V ~ 5.3V
- Low Operating Current ($V^+=5V$: 3.5mA Typ.)
($V^+=3.3V$: 1.1mA Typ.)
- Short Circuit Protection for External MIC.
- Package Outline DMP8, SSOP8
- Bipolar Technology

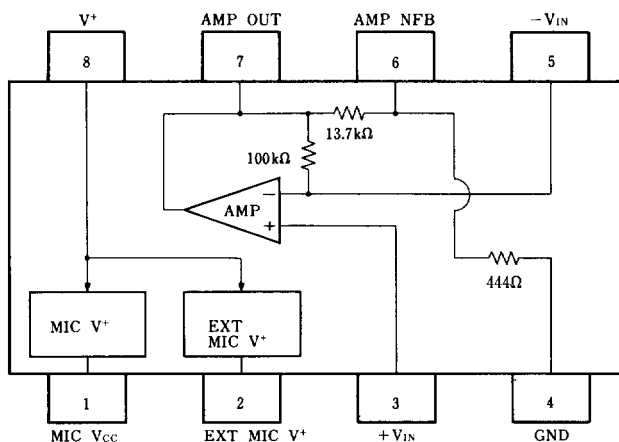
■ APPLICATION

- Video Camera

■ PIN CONFIGURATION



■ BLOCK DIAGRAM



■ ABSOLUTE MAXIMUM RATINGS

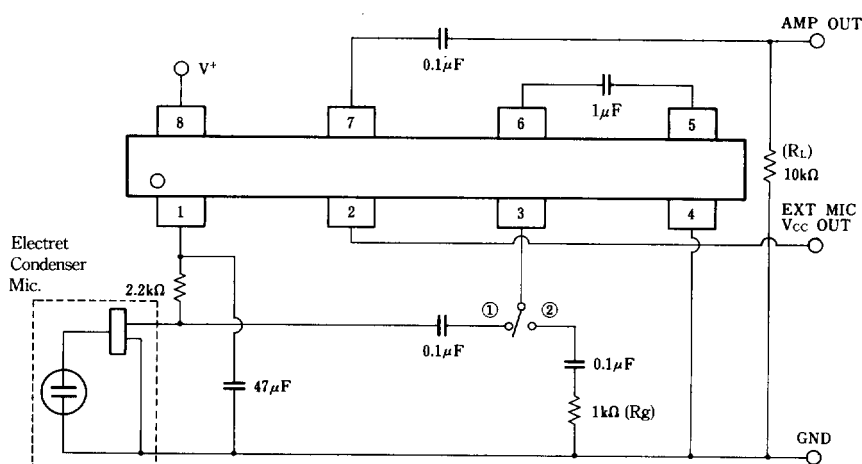
PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V^+	7.0	V
Power Dissipation	P_D	(SSOP8) 250 (DMP8) 300	mW mW
Operating Temperature Range	T_{opr}	$-20 \sim +75$	$^{\circ}\text{C}$
Storage Temperature Range	T_{stg}	$-40 \sim +125$	$^{\circ}\text{C}$

■ ELECTRICAL CHARACTERISTICS

($V^+=5\text{V}$, $T_a=25^{\circ}\text{C}$)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Operating Current 1	I_{cc1}		—	3.5	4.5	mA
Operating Current 2	I_{cc2}	$V^+=3.3\text{V}$	—	1.1	2.0	mA
Transfer Gain	G_v	$f=1\text{kHz}$	27	28	29	dB
Total Harmonic Distortion	THD	$f=1\text{kHz}$, $V_o=300\text{mV}_{rms}$, $R_L=10\text{k}\Omega$	—	0.05	0.2	%
Maximum Output Voltage	V_{om}	$f=1\text{kHz}$, $V^+=2.7\text{V}$, THD=1%, $R_L=10\text{k}\Omega$	2.0	2.5	—	V_{P-P}
Output Noise Voltage	V_{no}	$R_g=1\text{k}\Omega$, $C=0.1\mu\text{F}$, A-Weight	—	30	42	μV_{rms}
Input Resistance Gain	Z_{in}	$f=1\text{kHz}$	—	110	—	$\text{k}\Omega$
Output Resistance	Z_o	$f=1\text{kHz}$	—	10	—	Ω
MIC Output Supply Voltage 1	MIC_o1		2.0	2.35	2.7	V
MIC Output Supply Voltage 2	MIC_o2	$V^+=2.7\text{V}$	2.0	2.25	2.5	V
External Output Supply Voltage	EXT_{out}	$I_o=25\text{mA}$	4.0	—	—	V
Output Short Circuit Current	I_{os}	$EXT_o=0\text{V}$	—	—	30	mA

■ TEST CIRCUIT



*SW2: Output Noise Voltage TEST