

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

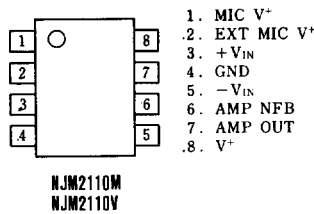
■ FEATURES

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

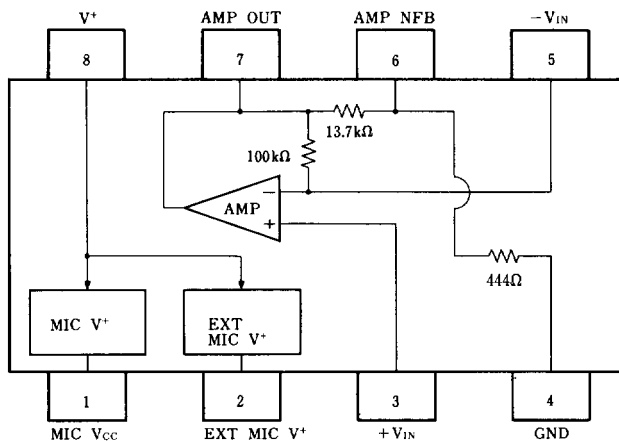
■ APPLICATION

- Video Camera

■ PIN CONFIGURATION



■ BLOCK DIAGRAM





■ ABSOLUTE MAXIMUM RATINGS

PARAMETER	SYMBOL	RATINGS	UNIT
Supply Voltage	V <sup>+</sup>	7.0	V
Power Dissipation	P <sub>D</sub>	(SSOP8) 250	mW
		(DMP8) 300	mW
Operating Temperature Range	T <sub>opr</sub>	-20~+75	°C
Storage Temperature Range	T <sub>stg</sub>	-40~+125	°C

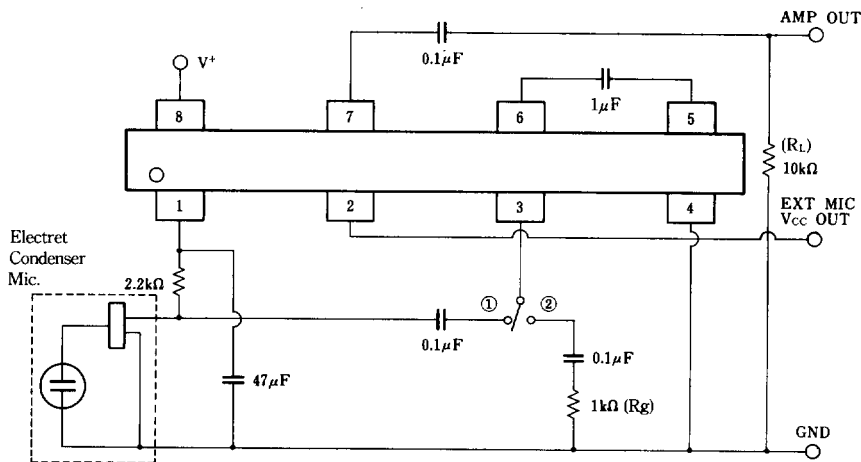
■ ELECTRICAL CHARACTERISTICS

(V<sup>+</sup>=5V, T<sub>a</sub>=25°C)

PARAMETER	SYMBOL	TEST CONDITION	MIN.	TYP.	MAX.	UNIT
Operating Current 1	I <sub>cc 1</sub>		—	3.5	4.5	mA
Operating Current 2	I <sub>cc 2</sub>	V <sup>+</sup> = 3.3V	—	1.1	2.0	mA
Transfer Gain	G <sub>v</sub>	f = 1kHz	27	28	29	dB
Total Harmonic Distortion	THD	f = 1kHz, V <sub>o</sub> = 300mV <sub>rms</sub> , R <sub>L</sub> = 10kΩ	—	0.05	0.2	%
Maximum Output Voltage	V <sub>om</sub>	f = 1kHz, V <sup>+</sup> = 2.7V, THD = 1%, R <sub>L</sub> = 10kΩ	2.0	2.5	—	V <sub>P-P</sub>
Output Noise Voltage	V <sub>no</sub>	R <sub>g</sub> = 1kΩ, C = 0.1μF, A-Weight	—	30	42	μV <sub>rms</sub>
Input Resistance Gain	Z <sub>in</sub>	f = 1kHz	—	110	—	kΩ
Output Resistance	Z <sub>o</sub>	f = 1kHz	—	10	—	Ω
MIC Output Supply Voltage 1	MIC <sub>O 1</sub>		2.0	2.35	2.7	V
MIC Output Supply Voltage 2	MIC <sub>O 2</sub>	V <sup>+</sup> = 2.7V	2.0	2.25	2.5	V
External Output Supply Voltage	EXT <sub>out</sub>	I <sub>o</sub> = 25mA	4.0	—	—	V
Output Short Circuit Current	I <sub>os</sub>	EXT <sub>O</sub> = 0V	—	—	30	mA

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■ TEST CIRCUIT



\*SW②: Output Noise Voltage TEST