



M2110

LINEAR INTEGRATED CIRCUIT

MONAURAL MIC AMP. FOR VIDEO CAMERA

■ DESCRIPTION

The UTC **M2110** is a monaural microphone amplifier. It's used for video camera which can operate from 2.7V.

For the performance is small package and low operating current. So it is easy to design the downsizing and low consumption.

■ FEATURES

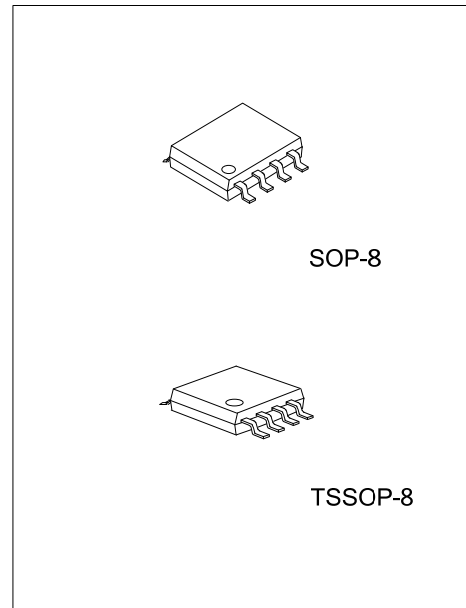
*Operating voltage: 2.7V~5.3V

*Low operating current: V+=5V, 3.5mA (Typ.)
V+=3.3V, 1.1mA (Typ.)

*Short circuit protection for external MIC.

■ ORDERING INFORMATION

Ordering Number	Package	Packing
M2110G-S08-R	SOP-8	Tape Reel
M2110G-P08-R	TSSOP-8	Tape Reel

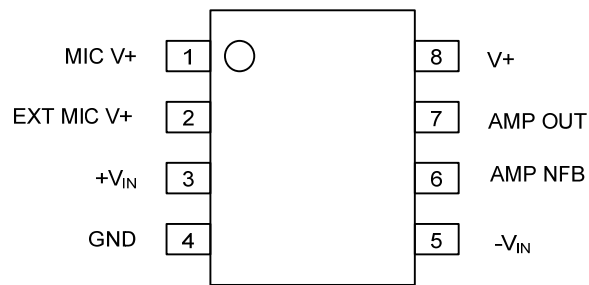


<p>M2110G-S08-R</p> <ul style="list-style-type: none"> (1) Packing Type (2) Package Type (3) Green Package 	<ul style="list-style-type: none"> (1) R: Tape Reel (2) S08: SOP-8, P08: TSSOP-8 (3) G: Halogen Free and Lead Free
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■ MARKING

SOP-8	TSSOP-8

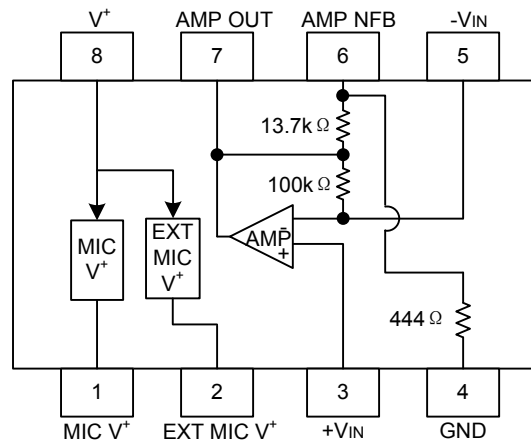
■ PIN CONFIGURATION



■ PIN DESCRIPTIONS

PIN NO.	PIN NAME	I/O	DESCRIPTION
1	MIC V+		
2	EXT MIC V+	O	External microphone power supply
3	+V _{IN}	I	Microphone amplifier non-inverting input
4	GND		Ground
5	-V _{IN}	I	Microphone amplifier inverting input
6	AMP NFB		
7	AMP OUT	O	Amplifier output
8	V+		Power supply

■ BLOCK DIAGRAM



■ ABSOLUTE MAXIMUM RATINGS ($T_A=25^{\circ}\text{C}$, unless otherwise specified)

PARAMETER		SYMBOL	RATINGS	UNIT
Supply Voltage		V^+	7.0	V
Power Dissipation	TSSOP-8	P_D	250	mW
	SOP-8		300	mW
Operating Temperature		T_{OPR}	-20 ~+75	$^{\circ}\text{C}$
Storage Temperature		T_{STG}	-40 ~+125	$^{\circ}\text{C}$

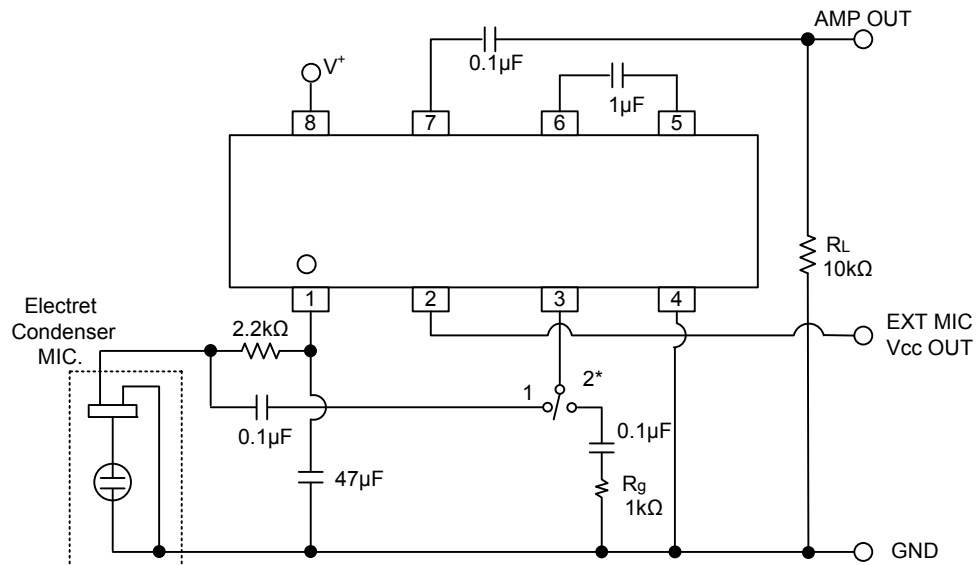
Note: Absolute maximum ratings are those values beyond which the device could be permanently damaged.

Absolute maximum ratings are stress ratings only and functional device operation is not implied.

■ ELECTRICAL CHARACTERISTICS ($V^+=5\text{V}$, $T_A=25^{\circ}\text{C}$, unless otherwise specified)

PARAMETER	SYMBOL	TEST CONDITION	MIN	TYP	MAX	UNIT
Operating Current 1	$I_{CC\ 1}$			3.5	4.5	mA
Operating Current 2	$I_{CC\ 2}$	$V^+=3.3\text{V}$		1.1	2.0	mA
Transfer Gain	Gv	f=1KHz	27	28	29	dB
Total Harmonic Distortion	THD	$V_o=300\text{mVrms}$, $R_L=10\text{k}\Omega$, f=1KHz		0.05	0.2	%
Maximum Output Voltage	$V_{O(\text{MAX})}$	$V^+=2.7\text{V}$, $R_L=10\text{k}\Omega$, f=1kHz, THD=1%	2.0	2.5		Vp-p
Output Noise Voltage	eN	$R_g=1\text{k}\Omega$, $C=0.1\mu\text{F}$, A-Weight		30	42	μVrms
Input Resistance Gain	Z_{IN}	f=1kHz		110		$\text{k}\Omega$
Output Resistance	Z_{OUT}	f=1kHz		10		Ω
MIC Output Supply Voltage 1	MICo 1		2.0	2.35	2.7	V
MIC Output Supply Voltage 2	MICo 2	$V^+=2.7\text{V}$	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	$I_{O(\text{SC})}$	EXT _{OUT} =0V			30	mA

■ TEST CIRCUIT



*SW 2 :Output Noise Voltage Test

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