

# UTCM2110 LINEAR INTEGRATED CIRCUIT

## MONAURAL MIC AMP. FOR VIDEO CAMERA

### DESCRIPTION

The UTC M2110 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.

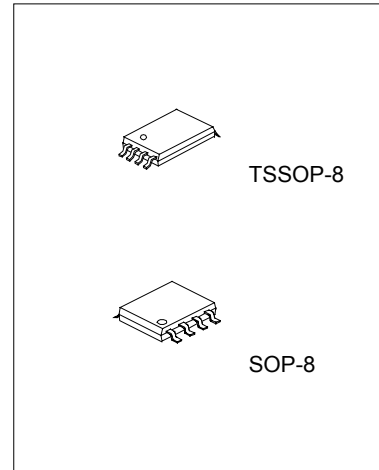
### FEATURES

\*Operating Voltage: 2.7V~5.3V

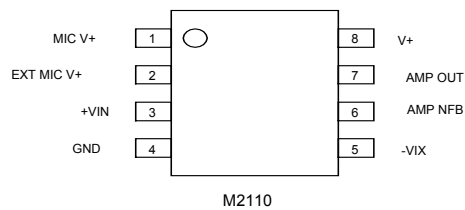
\*Low Operating Current:  $V^+=5V$ , 3.5mA (Typ.)

$V^+=3.3V$ , 1.1mA (Typ.)

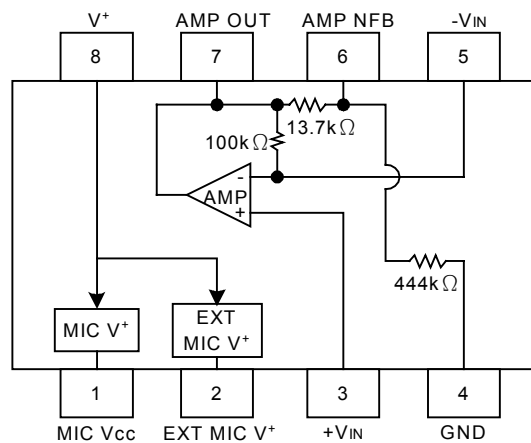
\*Short Circuit Protection for External MIC.



### PIN CONFIGURATION



### BLOCK DIAGRAM



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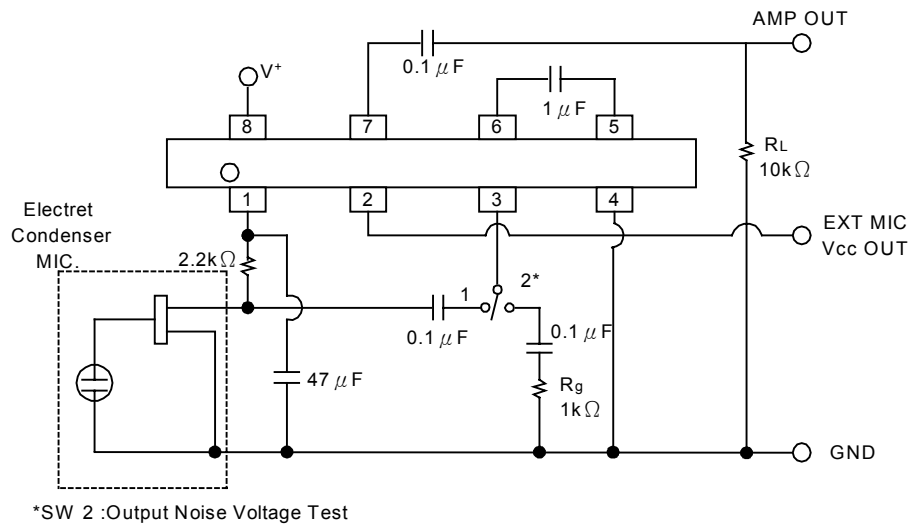
### ABSOLUTE MAXIMUM RATINGS (Ta=25°C)

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

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

| PARAMETER                      | SYMBOL | TEST CONDITION                     | MIN | TYP  | MAX | UNIT  |
|--------------------------------|--------|------------------------------------|-----|------|-----|-------|
| Operating Current 1            | Icc 1  |                                    |     | 3.5  | 4.5 | mA    |
| Operating Current 2            | Icc 2  | V* = 3.3V                          |     | 1.1  | 2.0 | mA    |
| Transfer Gain                  | Gv     | f=1KHz                             | 27  | 28   | 29  | dB    |
| Total Harmonic Distortion      | THD    | Vo=300mVrms, RL=10kΩ, f=1KHz       |     | 0.05 | 0.2 | %     |
| Maximum Output Voltage         | Vom    | V* = 2.7V, RL=10kΩ, f=1kHz, THD=1% | 2.0 | 2.5  |     | Vp-p  |
| Output Noise Voltage           | Vno    | Rg=1kΩ, C = 0.1μF, A-Weight        |     | 30   | 42  | μVrms |
| Input Resistance Gain          | Zin    | f=1kHz                             |     | 110  |     | kΩ    |
| Output Resistance              | Zo     | 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* = 2.7V                          | 2.0 | 2.25 | 2.5 | V     |
| External Output Supply Voltage | EXTout | Io=25mA                            | 4.0 |      |     | V     |
| Output Short Circuit Current   | Ios    | EXTo=0V                            |     |      | 30  | mA    |

## TEST CIRCUIT



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