

LMV1014

38 μ A Amplifier for 3 Wire Analog Electret Microphones

General Description

The LMV1014 is an audio amplifier for small form factor electret microphones. It is designed to replace the JFET preamp currently being used. The LMV1014 is ideal for extended battery life applications, such as a bluetooth communication link. The addition of a third pin in electret microphones that incorporate the LMV1014 allows for a dramatic reduction in supply current as compared to the JFET-equipped electret microphone. Microphone supply current is thus reduced to 38 μ A assuring longer battery life. The LMV1014 is guaranteed for supply voltages from 1.7V to 5V, and has a fixed voltage gain of 6dB.

The LMV1014 offers low output impedance over the voice bandwidth, excellent power supply rejection (PSRR), and stability over temperature.

The device is offered in space saving 4-bump microSMD (TM) package and is thus ideally suited for the form factor of miniature electret microphone packages.

Features

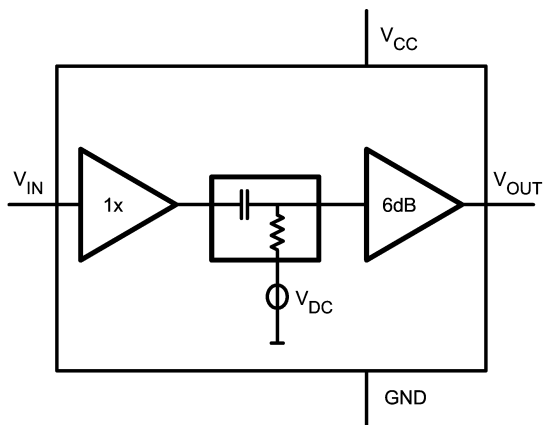
(Typical 1.7V Supply; Unless Otherwise Noted)

- Output voltage noise (A-weighted) -97dBV
- Low supply current 38 μ A
- Supply voltage 1.7V to 5V
- PSRR 88dB
- Signal to noise ratio 58dB
- Input capacitance 2pF
- Input impedance >100M Ω
- Output impedance <200 Ω
- Max input signal 300mV_{PP}
- Offered in 1.13 x 1.13 x 0.5mm microSMD package

Applications

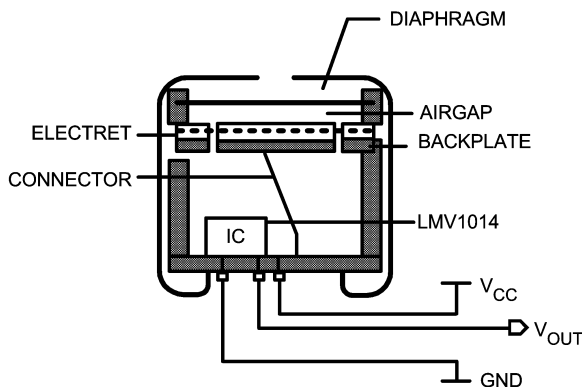
- Mobile communications - Bluetooth
- Automotive accessories
- Cellular phones
- PDAs
- Accessory microphone products

Block Diagram



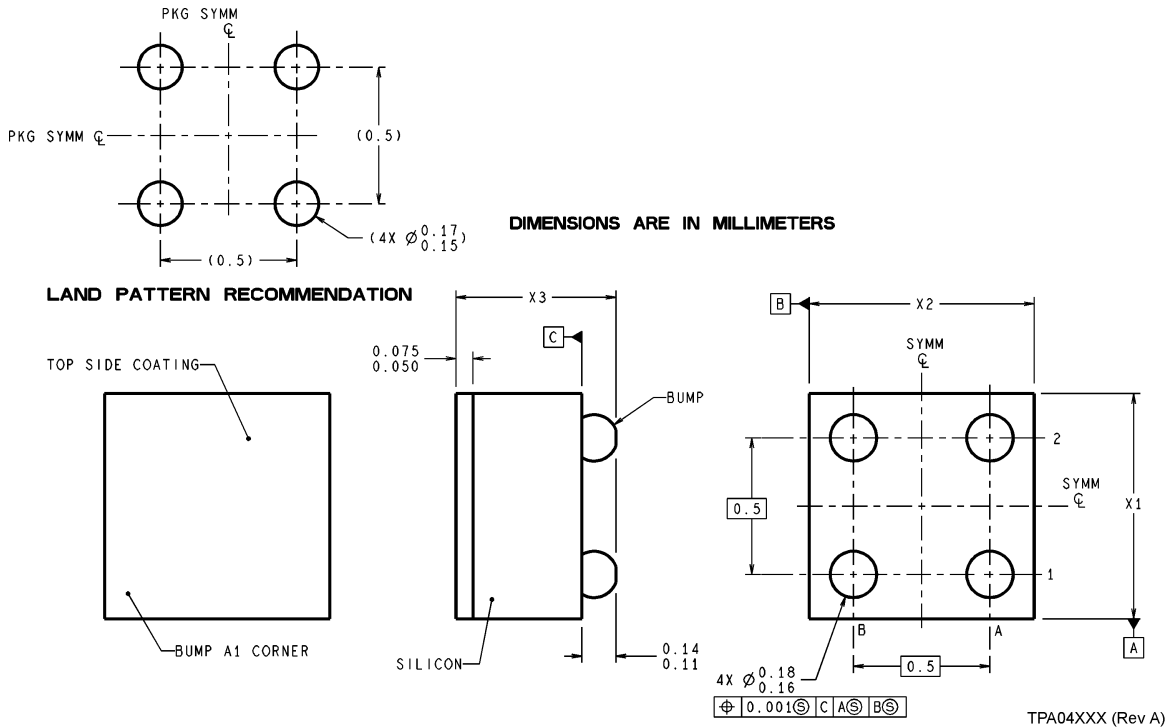
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Electret Microphone



20058802

Physical Dimensions inches (millimeters) unless otherwise noted



NOTE: UNLESS OTHERWISE SPECIFIED.

1. EPOXY COATING.
2. 63Sn/37Pb EUTECTIC BUMP.
3. RECOMMEND NON-SOLDER MASK DEFINED LANDING PAD.
4. PIN A1 IS ESTABLISHED BY LOWER LEFT CORNER WITH RESPECT TO TEXT ORIENTATION PINS ARE NUMBERED COUNTERCLOCKWISE.
5. XXX IN DRAWING NUMBER REPRESENTS PACKAGE SIZE VARIATION WHERE X1 IS PACKAGE WIDTH, X2 IS PACKAGE LENGTH AND X3 IS PACKAGE HEIGHT.
6. REFERENCE JEDEC REGISTRATION MO-211. VARIATION BC.

4-Bump microSMD

NS Package Number TPA04QQQA

$X_1 = 1.133\text{mm}$ $X_2 = 1.133\text{mm}$ $X_3 = 0.500\text{mm}$

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National Semiconductor
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National Semiconductor
Asia Pacific Customer
Support Center
Fax: 65-6250 4466
Email: ap.support@nsc.com
Tel: 65-6254 4466

National Semiconductor
Japan Customer Support Center
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Tel: 81-3-5639-7560