

## Ultra-Low Noise Microphone with Differential Output

### Product Brief

#### GENERAL DESCRIPTION

The ICS-40720\* is an ultra-low noise, differential analog output, bottom-ported MEMS microphone. The ICS-40720 includes a MEMS microphone element, an impedance converter, a differential output amplifier and an enhanced RF package. The ICS-40720's 70 dB SNR and  $\pm 2$  dB sensitivity tolerance make it an excellent choice for microphone arrays and voice control applications.

The ICS-40720 has a linear response up to 122 dB SPL with a differential output sensitivity specification of  $-32$  dBV. It can be used in a single-ended mode with  $-38$  dBV sensitivity and the same high SNR.

The ICS-40720 is available in a small 4.00 mm  $\times$  3.00 mm  $\times$  1.20 mm surface-mount package.

*\*Protected by U.S. Patents 7,449,356; 7,825,484; 7,885,423; and 7,961,897. Other patents are pending.*

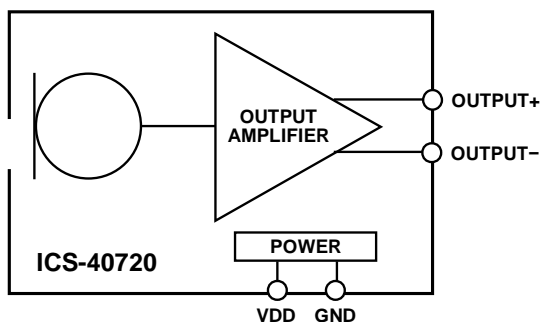
#### APPLICATIONS

- Smartphones
- Tablet Computers
- Teleconferencing Systems
- Digital Still and Video Cameras
- Bluetooth Headsets
- Security and Surveillance
- Microphone Arrays
- Voice Control and Activation

#### FEATURES

- Ultra-High 70 dBA SNR
- $-32$  dBV Differential Sensitivity,  $-38$  dBV Single-Ended Sensitivity
- $\pm 2$  dB Sensitivity Tolerance
- Small 4  $\times$  3  $\times$  1.2 mm Surface-Mount Package
- Non-Inverted Signal Output
- Extended Frequency Response from 60 Hz to 20 kHz
- Enhanced RF Performance
- 300  $\mu$ A Current Consumption
- 122 dB SPL Acoustic Overload Point
- $-80$  dBV PSR
- Compatible with Sn/Pb and Pb-Free Solder Processes
- RoHS/WEEE Compliant

#### FUNCTIONAL BLOCK DIAGRAM



#### ORDERING INFORMATION

PART	TEMP RANGE	PACKAGING
ICS-40720	$-40^{\circ}\text{C}$ to $+85^{\circ}\text{C}$	13" Tape and Reel
EV_IC3-40720-FX	—	—