

## Multi-Mode Microphone with I<sup>2</sup>S Digital Output

### GENERAL DESCRIPTION

The ICS-43434 is digital I<sup>2</sup>S output bottom port microphone. The complete ICS-43434 solution consists of a MEMS sensor, signal conditioning, an analog-to-digital converter, decimation and antialiasing filters, power management, and an industry standard 24-bit I<sup>2</sup>S interface. The I<sup>2</sup>S interface allows the ICS-43434 to connect directly to digital processors, such as DSPs and microcontrollers, without the need for an audio codec in the system.

The ICS-43434 has multiple modes of operation: High Performance, Low Power (AlwaysOn), Sleep. The ICS-43434 has high SNR and 120 dB SPL AOP in all operational modes.

The ICS-43434 has a high SNR of 65 dBA and a wideband frequency response. The sensitivity tolerance of the ICS-43434 is  $\pm 1$  dB, which enables high performance microphone arrays without the need for system calibration.

The ICS-43434 is available in a small 3.50 mm  $\times$  2.65 mm  $\times$  0.98 mm surface-mount package. The ICS-43434 is function-compatible with the ICS-43432 while providing equivalent electro-acoustic performance at lower power consumption and in a smaller package.

### APPLICATIONS

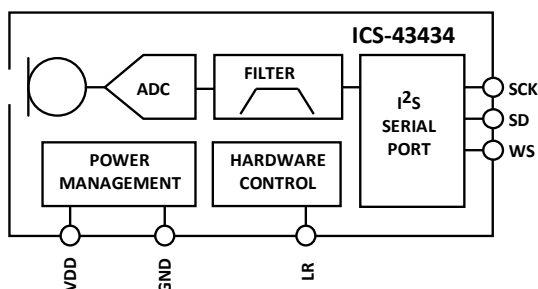
- Wearables
- Smart Televisions
- Remote Controls
- IoT Devices
- Teleconferencing Systems
- Gaming Consoles
- Security Systems

### FEATURES

SPEC	HIGH PERFORMANCE MODE	LOW-POWER MODE
Sensitivity	-26 dB FS $\pm 1$ dB	-26 dB FS $\pm 1$ dB
SNR	65 dBA	65 dBA
Current	475 $\mu$ A	215 $\mu$ A
AOP	120 dB SPL	120 dB SPL
Sample Rate	23 – 51.6 kHz	6.25 – 18.75 kHz

- Digital I<sup>2</sup>S interface with high precision 24-bit data
- Wide frequency response from 50 Hz to 20 kHz
- High power supply rejection: -85 dB FS
- Small 3.50 mm  $\times$  2.65 mm  $\times$  0.98 mm surface-mount package
- Compatible with Sn/Pb and Pb-free solder processes
- RoHS/WEEE compliant

### FUNCTIONAL BLOCK DIAGRAM



### ORDERING INFORMATION

PART	TEMP RANGE	PACKAGING
ICS-43434	-40°C to +85°C	13" Tape & Reel
EV_IC3-43434-FX	—	