ICS-41350 Product Brief

Bottom Port PDM Low-Power Multi-Mode Microphone With High AOP Mode

GENERAL DESCRIPTION

The ICS-41350 is a low-power, low-noise digital MEMS microphone in a small package. The ICS-41350 consists of a MEMS microphone element and an impedance converter amplifier followed by a fourth-order Σ-Δ modulator. The pulse density modulated (PDM) interface allows two microphones to be time multiplexed on a data line using a single clock.

The ICS-41350 has multiple modes of operation: High Performance, Low Power (AlwaysOn), Standard and Sleep. The ICS-41350 has low power and high SNR in all operational modes. It has 126 dB SPL AOP in High Performance mode, and 120 dB SPL AOP in Standard and Low-Power modes.

The ICS-41350 supports ultrasound applications in High Performance Mode. It has an extended ultrasonic response up to 40 kHz with high SNR.

The ICS-41350 is available in a small 3.5 × 2.65 × 0.98 mm surface-mount package. It is reflow solder compatible with no sensitivity degradation.

APPLICATIONS

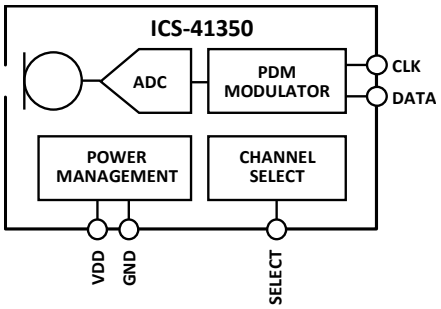
- Smartphones
- Microphone Arrays
- Tablets
- Cameras
- Bluetooth Headsets
- Notebook PCs
- Security and Surveillance

FEATURES

SPEC	LOW-POWER MODE	STANDARD MODE	HIGH PERFORMANCE MODE
Sensitivity	−26 dB FS ±1 dB	−26 dB FS ±1 dB	−32 dB FS ±1 dB
SNR	63 dBA	64 dBA	64 dBA
Current	185 µA	430 µA	650 µA
AOP	120 dB SPL	120 dB SPL	126 dB SPL
Clock	400 – 800 kHz	1.0 – 3.3 MHz	4.1 – 4.8 MHz

- 3.5 × 2.65 × 0.98 mm surface-mount package
- Low power: 185 µA in Low-Power Mode
- Extended frequency response from 50 Hz to >20 kHz
- Ultrasound support up to 40 kHz
- Sleep Mode: 12 µA
- High power supply rejection (PSR): −97 dB FS
- Fourth-order Σ-Δ modulator
- Digital pulse density modulation (PDM) output
- Compatible with Sn/Pb and Pb-free solder processes
- RoHS/WEEE compliant

FUNCTIONAL BLOCK DIAGRAM



ORDERING INFORMATION

PART	TEMP RANGE	PACKAGING
ICS-41350	−40°C to +85°C	13” Tape and Reel
EV_ICS-41350-FX	—	

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