



SPH1878

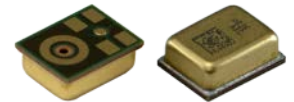
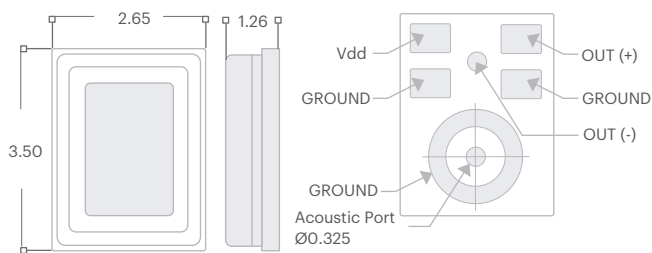
SPH1878 - High Performance Analog Automotive Microphone

PRODUCT OVERVIEW

- ▶ AEC-Q100/103 Qualified for Automotive Robustness
- ▶ High Dynamic Range (66.5dB SNR, 134dB AOP) for high-quality voice pick-up
- ▶ 7 Hz LFRO enables superior Active Noise Cancellation (ANC) for a quieter cabin
- ▶ Ultrasonic frequency response for proximity detection
- ▶ ± 1 dB sensitivity matching, with an option to upgrade to ± 0.5 dB matching, for enhanced beamforming performance
- ▶ Support for both Differential & Single Ended Modes

| Key Parameters | Normal Mode | Low Power Mode |
|--|---|------------------|
| Signal-to-noise ratio (SNR) | 66.5 dB (A) | 64.5 dB (A) |
| Acoustic Overload Point (1% / 10% THD) | 125 / 134 dB SPL | 125 / 132 dB SPL |
| Low Frequency Roll Off (LFRO) | 7 Hz | |
| Current Consumption | 250 μ A | 100 μ A |
| Sensitivity and Tolerance | -38 ± 1 (Single-Ended -44 ± 1) dB V/Pa | |
| Supply Voltage | 2.3 to 3.6V | 1.6 to 1.9V |
| Interface | Differential or Single-Ended Analog | |
| Port Location | Bottom Port | |
| Package Dimensions | 3.50 x 2.65 x 1.26 mm | |
| Operational Temperature Range | -40° to $+85^\circ$ C | |

DIMENSIONS (MM)

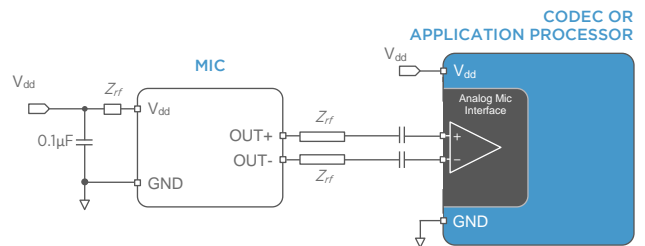


TYPICAL APPLICATIONS

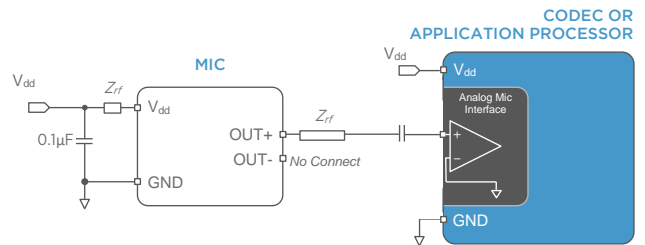
- ▶ Active Noise Cancellation
- ▶ Proximity Detection
- ▶ Voice Call / ECall

APPLICATION NOTES

TYPICAL DIFFERENTIAL MODE APPLICATION CIRCUIT



TYPICAL SINGLE-ENDED MODE APPLICATION CIRCUIT



Note: The above block diagram is for illustrative purposes only. For additional information, refer to the microphone datasheet.

CONTACT

For inquiries, please contact your nearest Knowles representative, or Knowles at: sales@knowles.com

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