

LMV1051

*LMV1051 PRODUCT BRIEF Processor for Dual Microphone Adaptive Noise
Cancelling with Wind Noise Alert*



Literature Number: SNAS508

www.BDTIC.com/TI

Processor for Dual Microphone Adaptive Noise Cancelling with Wind Noise Alert

General Description

The LMV1051-LLP is an ultra-low power signal processor that processes the signals from 2 ECM or MEMS microphones to create an adaptive beam forming noise reduction system.

The LMV1051-LLP processor is intended to be integrated with microphones (ECMs or MEMS). By using a proprietary National algorithm, the processor extracts a clean intelligible signal from noisy environments through the use of an adaptive directional pattern. The resulting solution can reduce noise by up to 30 dB, resulting in a significant improvement to the signal-to-noise ratio (SNR). The signal processing does not introduce artifacts into the talker's voice. The desired signal is unmodified, which improves intelligibility and speech recognition accuracy.

The LMV1051-LLP is designed to replace a standard ECM using a two-wire or three-wire interface. The entire module, including the processing IC, is powered from the mic bias supply. The resulting system uses less power than an individual ECM giving the end-product designer the ability to upgrade current designs without modifying the existing circuit. The result is an easy-to-use, low cost microphone alternative, providing superior noise reduction for end users.

Notice: This document is not a full datasheet. For more information regarding this product or to order samples please contact your local National Semiconductor sales office or visit <http://www.national.com/support/dir.html>

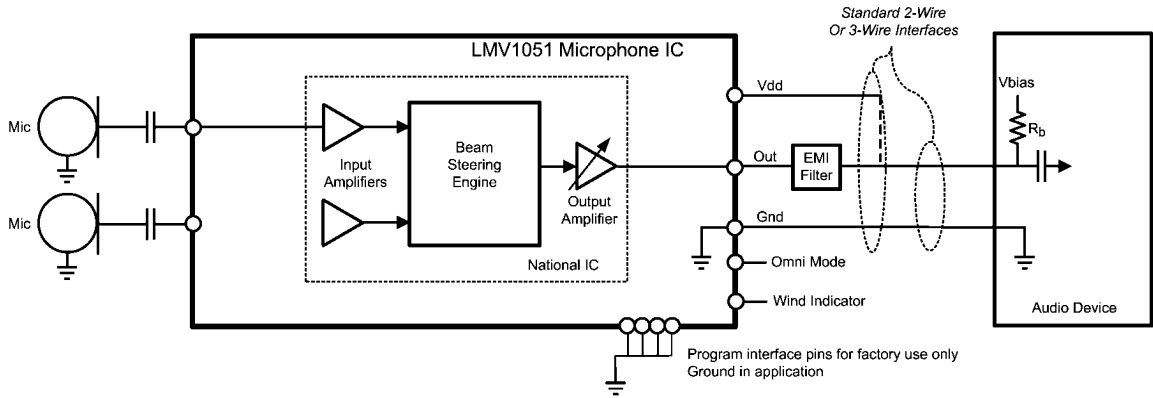
Features

- Superior Noise Cancellation
 - Dual Mic Technology
 - Active Directional Pattern
 - Up to 30dB peak noise rejection of stationary and non-stationary noise sources
 - No distortion of desired signal
 - Flat Frequency Response
- Wind Noise Alert and Protection
 - Automatically reduces wind noise by ≈ 20 dB (vs. directional mic)
 - Wind Noise Alert can be used to further reduce impact of wind on desired signal
- Ultra-Low Power Consumption
 - 210 μ A (typical) including mic bias
 - Battery-free operation in wired headsets
- Compatible with Standard ECM Interfaces
 - 2-wire or 3-wire interface
 - Powered from mic bias supply
- Complete Signal Processing Solution
 - No Software Required
 - Enables a fully integrated mic module
- Zero-Latency Signal Processing
- Noise Cancelling or Omni-Directional Output
- Better EMI Noise rejection than ECM
- Supports Telephony Bandwidth
- Small Size 3 x 3 mm

Applications

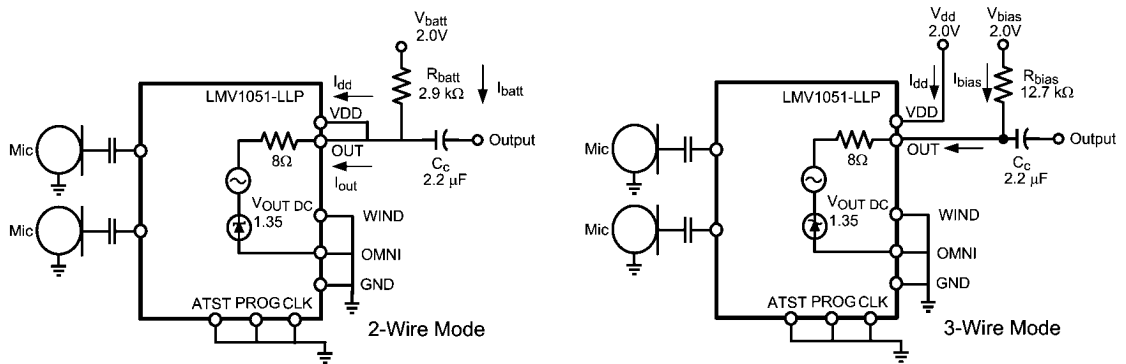
- Wired Headset
- Webcams
- Cellular or Cordless Handsets

Block Diagram



30133601

Typical Applications Circuit



30133602

Notes

LMV1051

Notes

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