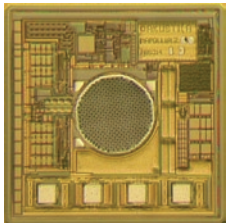


PRODUCT BRIEF

AKU1126 Analog Output Microphone

GENERAL DESCRIPTION

The **AKU1126** is the world's smallest, analog-output microphone that uses standard CMOS semiconductor packaging technology and materials. While other microphones degrade in performance as they shrink in size, the **AKU1126** maintains superior performance on an ultra-small form factor.



AKU1126 CMOS MEMS Microphone Die

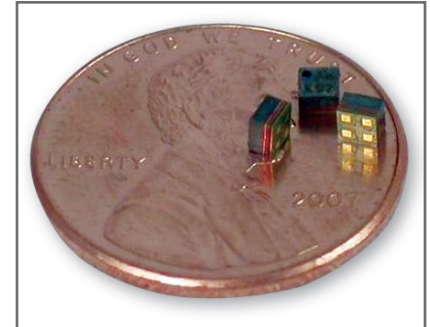
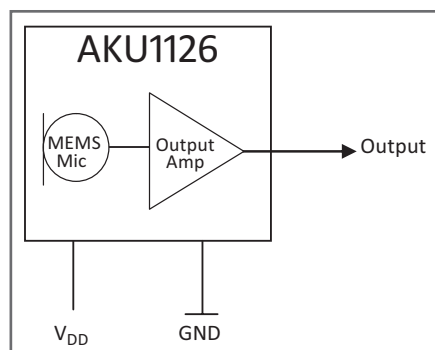
The **AKU1126** is the first microphone product to leverage Akustica's 1mm x 1mm CMOS MEMS microphone die – a monolithic solution which integrates the acoustic transducer and accompanying electronics on a single chip of silicon. In contrast to other silicon microphones, Akustica's one die approach eliminates the need for inter-die wirebonds, allowing for smaller, higher performance, more reliable products.

AKU1126 microphones are simple to integrate into many consumer electronic devices with just minimal design changes. In addition, two or more **AKU1126** microphones can be used without increasing the PCB footprint dedicated to a single microphone used today. This makes the **AKU1126** ideal for use in very small end-user devices such as mobile phones and headsets where board space is at a premium and a high degree of voice quality can be achieved using microphone arrays and next generation noise suppression technology.

BENEFITS OF THE AKU1126

- ▶ 2mm x 2mm x 1.25mm package size
- ▶ Equivalent performance to microphones that are more than 3x the footprint
- ▶ 1/3rd to 1/4th the footprint of alternative microphones
- ▶ 70% lower current consumption than traditional electret microphones
- ▶ 50% better THD performance at 115dB SPL
- ▶ Lead-free surface-mountable for improved manufacturing reliability and efficiency
- ▶ Automated pick and place compatible
- ▶ RoHS compliant

FUNCTIONAL BLOCK DIAGRAM



Key Features

- ▶ Tiny footprint of only 4mm²
- ▶ High performance, omni-directional analog-output microphone
- ▶ Monolithic CMOS MEMS microphone chip
- ▶ 58 dB SNR
- ▶ -42 dBV sensitivity
- ▶ 1.65V-3.6V operation
- ▶ 150 μ A current consumption
- ▶ <5% distortion at 115dB SPL
- ▶ Better than 40dB power supply rejection ratio (PSRR)
- ▶ Highly matched microphones in frequency and phase response

Applications

- ▶ Small, thin-profile cell phones and other portable devices
- ▶ Wireless headsets and other space-constrained audio accessories
- ▶ Portable consumer electronic devices which use more than one microphone

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