⬩TDK

SmartSound™

PRIMARY APPLICATIONS

True Wireless Audio
Earbuds today feature a multitude of microphones. Not only for phone calls, but for noise cancelation, transparency functions, and always-on smart assistants.

Smart Homes
With multiple mics configured in an array, the resulting beam pattern makes it easy for products like smart assistants to hear voice commands from across the room

Mobile Devices
Wide dynamic range and high sound to noise ratio produces great results in any environment

Robotics
Advanced semiconductor micro fabrication techniques advance voice recognition technology and further improve the intelligence of interactive robots

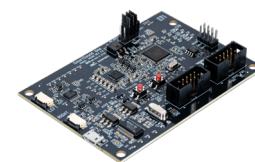## FEATURED PRODUCTS

T5837 & T5838

High-performance PDM microphones with breakthrough new low power levels as well as an industry-leading SNR and AOP, all inside a single standard 3.5 × 2.65 × 0.98 mm package

T5848

T5848 adds data output formats of SoundWire and I²S respectively. SoundWire allows a high mic count, bi-directional data, and control bits. I²S provides multibit PCM data ready to process.

SmartSound One

TDK's SmartSound One (MD-54001-D58) is a USB plug-and-play microphone interface module that enables rapid evaluation and development of TDK Analog and Digital MEMS microphone solutions.

PRODUCT CATEGORIES

T5837 & T5838
Headsets & Earbuds, Smart Speakers, Game Controllers, IoT

- Industry-leading low power consumption: 50 – 70% lower than competitors
- High SNR and AOP in all operational modes
- Acoustic Activity Detect w/ programmable thresholds and filters with power consumption as low as 20 µA
- Available with -37 dBFS sensitivity in HQM (T5837)

T5838
Smartphones, Tablets, Headsets

- High SNR & AOP in all operational modes
- Acoustic Activity Detect w/ programmable thresholds and filters with power consumption as low as 20 µA

T5838 & T5848
Smartwatches, Wearables, TV Remotes & Set Top Boxes

- Industry-leading, first high SNR & high dynamic range I²S output, high SNR & AOP in all modes (T5848)
- Ultra-low power consumption
- I²S output allows direct connection to a wide variety of SoCs, MCUs (T5848)
- Acoustic Activity Detect w/ programmable thresholds and filters with power consumption as low as 20 µA

PRODUCT DETAILS

Product Number	Package Size (mm)	Sensitivity (high quality mode)	Sensitivity (low-power mode)	SNR (high quality)	SNR (low-power)	AOP (high quality)	AOP (low-power)	Notes
T5837	3.5 × 2.65 × 0.98 Bottom Port	−37 dB FS ±1 dB	−21 dB FS ±1 dB	68 dBA	65 dBA	133 dB SPL	117 dB SPL	Industry standard sensitivity
T5838	3.5 × 2.65 × 0.98 Bottom Port	−41 dB FS ±1 dB	−26 dB FS ±1 dB	68 dBA	65 dBA	133 dB SPL	119 dB SPL	AAD with programmable thresholds & filters with 20 uA power consumption
T5848	3.5 × 2.65 × 0.98 Bottom Port	−37 dB FS ±1 dB	−26 dB FS ±1 dB	68 dBA	65 dBA	133 dB SPL	119 dB SPL	Ultra-low power, high SNR, multi-mode I2S

Scan Here
for additional materials and information.