

Actuators

PiezoListen™: Expanded lineup of ultra-thin piezo speakers with a wider dynamic range

- The world's thinnest** speaker can be installed on nearly any surface
- Improved low frequency characteristics
- High sound pressure based on TDK's piezoelectric technology

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TDK Corporation (TSE:6762) has expanded its lineup of ultra-thin PiezoListen™ speakers with new types featuring a wider dynamic range and higher sound pressure level (SPL) in the low frequency range, even at voltages up to 24 V_{P-P}. The PiezoListen series of piezo speakers now includes the PHUA6630* wide dynamic range speaker with an operating frequency range of 400 Hz to 20 kHz. This product has a footprint of 66 x 30 mm and complements the existing PHUA3030* speaker, which was introduced in May 2019. Also new in the series are two new sound positioning speakers with an operating frequency range of 1000 Hz to 20 kHz. The miniature PHUA2010* features dimensions of just 20 x 10 mm, while the PHUA3015* speaker measures in at 30 x 15 mm. Samples are available for all types.

With a thickness as low as 0.49 mm the PiezoListen type PHUA3030* is the world's thinnest** speaker that is able to cover a wide frequency range from as low as 400 Hz up to 20 kHz. Thanks to its form factor, PiezoListen can turn nearly any surface such as a display screen into a speaker. In addition, it is easy to integrate into existing applications without sound emission holes, enabling flexible acoustic solutions that require no changes to the exterior designs.

The development of the low-profile, high-displacement piezoelectric speakers was made possible by TDK's patented multilayer and material technologies. As the evolution of video content rapidly moves to 4K and 8K resolutions, the demand for advanced multimedia will continue to grow. With PiezoListen TDK will enable completely new integrated acoustic solutions and thus contribute to the evolution of customer application design.

**Source: TDK market research, October 2019

Main applications

- Speakers for televisions, tablets, notebooks, smartphones and other devices
- Positioning speakers in surround systems

Main features and benefits

- Ultra-thin speaker that can produce sound from nearly any display or surface
- Thickness as low as 0.49 mm
- Wide range frequency characteristics with high sound pressure

Key data

Type	Footprint [mm]	Thickness [mm]	Max. rated voltage [V _{P-P}]	Operating frequency [Hz]	Operating temperature [°C]
PHUA2010-049B* [New]	20 x 10	0.49	24	1,000 to 20,000	-10 to 60
PHUA3015-049B* [New]	30 x 15			400 to 20,000	
PHUA3030-049B*	30 x 30				
PHUA6630-076B* [New]	66 x 30	0.76	48		

About TDK Corporation

TDK Corporation is a leading electronics company based in Tokyo, Japan. It was established in 1935 to commercialize ferrite, a key material in electronic and magnetic products. TDK's comprehensive portfolio features passive components such as ceramic, aluminum electrolytic and film capacitors, as well as magnetics, high-frequency, and piezo and protection devices. The product spectrum also includes sensors and sensor systems such as temperature and pressure, magnetic, and MEMS sensors. In addition, TDK provides power supplies and energy devices, magnetic heads and more. These products are marketed under the product brands TDK, EPCOS, InvenSense, Micronas, Tronics and TDK-Lambda. TDK focuses on demanding markets in the areas of information and communication technology and automotive, industrial and consumer electronics. The company has a network of design and manufacturing locations and sales offices in Asia, Europe, and in North and South America. In fiscal 2019, TDK posted total sales of USD 12.5 billion and employed about 105,000 people worldwide.

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www.tdk.com/corp/en/news_center/press/20191029_01.htm

Further information on the products can be found under
https://product.tdk.com/info/en/catalog/datasheets/piezolisten_commercial_phu_en.pdf.

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