

Mini PowerHap™ actuators for haptic feedback

Piezo actuators

May 14, 2019 -- TDK Corporation (TSE:6762) has extended its portfolio of PowerHap piezo actuators for haptic feedback with the new miniature rectangular 0904H014V060 and 1204H018V060 actuators. They have dimensions of only 9 x 3.75 x 1.4 mm and 12 x 4 x 1.8 mm, respectively. At the maximum operating voltage of 60 V, the new actuators can accelerate a mass of 100 grams at 3.3 *g* (pk) or 5 *g* (pk) with maximum displacements of 15 µm or 27 µm, respectively.

PowerHap features high acceleration and large forces in a very compact design, coupled with a short response time of less than one millisecond. A key feature is the low energy consumption of only 0.35 mJ or 0.6 mJ per feedback. In addition to the actuator properties, PowerHap also offers good sensing functionality by using the inverse piezo effect. Thanks to their outstanding performance, PowerHap actuators are technologically superior to conventional electromagnetic solutions such as ERM motors (eccentric rotary mass) and LRA actuators (linear resonant actuator).

Typical application areas for the new PowerHap actuators include smartphones and tablets, household appliances, game consoles, VR/AR equipment, digitizers and handheld medical devices.

The order codes are Z63000Z2910Z 1Z41 and Z63000Z2910Z 1Z39, respectively.

Main applications

- Smartphones and tablets, home appliances, game consoles, VR/AR equipment, digitizers and handheld medical devices

Main features and benefits

- Small dimensions of only 9 x 3.75 x 1.4 mm or 12 x 4 x 1.8 mm
- High acceleration of 3.3 *g* (pk) or 5 *g* (pk)
- Short response time of less than one millisecond
- Low energy consumption of only 0.35 mJ or 0.6 mJ per click

Key data

Type	Dimensions [mm]	Max. operating voltage [V] *	Acceleration [g] peak*	Displacement [µm]
0904H014V060	9 x 3.75 x 1.4	60	3.3	15
1204H018V060	12 x 4 x 1.8		5	27

* For a load with a mass of 100 grams

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.

You can download this text and associated images from www.tdk-electronics.tdk.com/en/190514-1. Further information on the products can be found under www.tdk-electronics.tdk.com/en/powerhap. Please forward reader inquiries to marketing.communications@tdk-electronics.tdk.com.

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