

# IHPT-1411AF-AB0 Customizable Haptic Feedback Actuator Offers High Force Density, Compact Size for Touchscreens, Simulators, Switch Panels, and Joysticks

## Product Benefits:

- Delivers high impulse pulse and vibration capability for clear tactile feedback in noisy environments or anywhere a mechanical response to action is desired
- Compact, two-piece construction with mounting holes for easy installation and direct application of force
- Operating temperature range to +105 °C for rugged environments
- Fast response time of < 5 ms can be varied to produce multiple haptic effects with a nominal operating voltage of 12 V, up to 16 V
- Simple bobbin and core components allow designers to lay out a spring and housing that is incorporated into the display mounting, eliminating the need for additional housing
- Standard lead terminations are dipped in 100 % tin solder
- Vishay can customize the device's mounting orientation, termination types, and performance to any design's specifications
- RoHS-compliant, halogen-free, and Vishay Green



## Market Applications:

- Industrial appliances utilizing LCD display panels or touch switches, building and factory automation and control systems, and electronic point of sale (POS) systems; medical monitoring, diagnostic, and surgical equipment; handheld radios; game or simulation controllers; and barcode scanners

## The News:

Vishay Intertechnology introduces a new customizable haptic feedback actuator for touchscreens, joysticks, and touch switches in commercial applications.

- The IHPT-1411AF-AB0 is an electromagnetic device that converts electrical energy into a mechanical pulse or vibration for touch-based interaction that can be varied by power amplitude and duty cycle of the input voltage
- The haptic coil assembly, when energized by a DC voltage pulse, creates a magnetic field that attracts the mounted dynamic core piece. When deenergized, the core piece is returned back to its original position by the customer-provided spring assembly
- By eliminating the need for additional housing, the IHPT-1411AF-AB0 enables lower costs, a reduced component height, and higher force density than competing technologies, including linear resonant, linear wideband, eccentric rotating mass, and piezo actuators
- The device can drive a 0.5 kg load to 6 g of acceleration with a 12 V, 5 ms pulse; competing technologies can only drive 0.1 kg to 0.2 kg to this level



## The Key Specifications:

- Nominal operating voltage: 12 V
- Maximum operating voltage: 16 V
- Operating temperature range: -40 °C to +105 °C
- Typical response time: 5.0 ms
- Inductance at 1 kHz, 0.25 V, 0 A: 1.8 mH
- Typical DCR: 0.95  $\Omega$
- Max. DCR: 1.09  $\Omega$
- Coil to core dielectric withstand voltage: 150 V<sub>DC</sub>

## Availability:

Samples and production quantities of the new haptic feedback actuator are available now, with lead times of 12 weeks.

To access the product datasheet on the Vishay Website, go to <http://www.vishay.com/ppg?34545> (IHPT-1411AF-AB0)

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