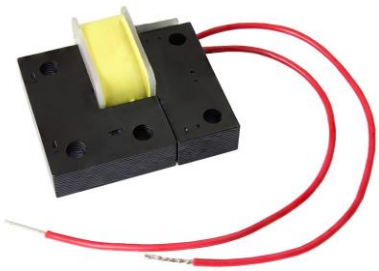
IHPT-1411AF-ABA AEC-Q200 Qualified, Customizable Haptic Feedback Actuator With 12 V Operation Offers High Force Density, HD Capability, and Compact Size for Rugged Automotive Environments

Product Benefits:



- Delivers high pulse and vibration capability for clear tactile feedback in noisy environments
- AEC-Q200 qualified
- Low 12 V operation eliminates the need for the additional high voltage supplies required by other technologies
- 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 utilized to produce multiple high definition (HD) haptic effects with operating voltages up to 16 V
- Simple bobbin and core components allow designers to lay out a return spring configuration that can be incorporated into the display mounting, eliminating the need for additional housing
- Standard 26 AWG, 13 cm leads (typical), with 100 % tin solder terminations
- Custom leads or connectors available upon request
- Vishay can customize the IHPT-1411AF-ABA's mounting orientation, termination types, and performance to any design's specifications
- RoHS-compliant, halogen-free, and Vishay green

Market Applications:

- Automotive dashboards, center consoles, and touchscreens for human-machine interfaces
- Tactile feedback for electronic shift transmissions, steering wheels, seats, and other in-vehicle controls

The News:

Vishay Intertechnology introduces a new AEC-Q200 qualified customizable haptic feedback actuator offering 12 V operation for LCD displays, touchscreens, and touch switches in automotive applications.

- The Automotive Grade IHPT-1411AF-ABA is an electromagnetic device that converts electrical energy into a mechanical pulse or vibration for touch-based interaction that can be controlled by varying the input voltage amplitude and duty cycle
- The haptic coil assembly, when energized by a DC voltage pulse, creates a magnetic field that attracts the mounted dynamic core piece. When deenergized, it returns the core piece back to its original position by springs or elastic material in the customer's assembly
- By eliminating the need for additional housing and high voltage supplies, the IHPT-1411AF-ABA can be implemented at up to a 40 % lower cost — while reducing component height and delivering 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:

- 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 Ω
- Max. DCR: 1.09 Ω
- Coil to core dielectric withstand voltage: 150 V_{DC}

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?34508 (IHPT-1411AF-ABA)

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