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Fast Facts

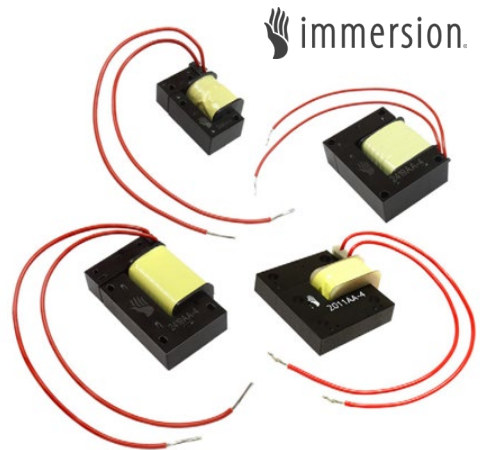
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# New AEC-Q200 Qualified IHPT-A Haptic Feedback Actuators With Immersion Licenses for Automotive Applications

Vishay Inductors expands its lineup of IHPT solenoid-based haptic actuators featuring Immersion Corporation licenses with four new AEC-Q200 qualified devices for automotive applications. Providing 12 V operation for LCD displays, touchscreens, touch switches, and button control panels for human-machine interfaces (HMI), the actuators deliver high pulse and vibration capability for clear, high definition (HD) tactile feedback.

The low nominal 12 V operation of the automotive IHPT-A devices eliminates the need for the additional high voltage circuitry required by other technologies. As a result, the actuators can be implemented at a lower cost than competing technologies — including linear resonant, linear wideband, eccentric rotating mass, and piezo actuators — while reducing component height and delivering higher force density. By bundling the devices with Immersion licenses, the design-in process is streamlined and costs are lowered further by eliminating the need to purchase a separate license to implement sophisticated haptic effects.



## Device Specification Table

Part #	Force output (N)	Force coefficient	Response time typ. (ms)	Inductance (mH)	DCR typ. ( $\Omega$ )	DCR max. ( $\Omega$ )
IHPT1207AGELR39ABA	25	0.39	5	1.35	0.95	1.04
IHPT1710ACEL1R2ABA	45	1.2	5	4.04	2.0	2.2
IHPT1411AFELR73ABA	80	0.73	5	1.8	0.95	1.09
IHPT1614ACEL2R7BBA	120	2.7	5	3.5	1.2	1.32

## Key Features

- Bundled with Immersion license
- Deliver high pulse and vibration capability for clear, HD tactile feedback in noisy environments
- Available in four sizes from 29 mm by 21 mm to 44 mm by 37 mm
- Provide force output from 25 N to 120 N
- Compact, two-piece construction with mounting holes for easy installation and direct application of force
- Fast response time of 5 ms combined with high mechanical force to allow for HD haptic effects with operating voltages from 8 V to 16 V
- High reliability in rugged environments:
  - Rigid copper and iron core construction
  - High temperature operation to +105 °C

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- Low nominal 12 V operation eliminates the need for the additional high voltage circuitry required by other technologies
- Standard lead terminations are dipped in 100 % tin solder
- Vishay can customize the actuators' size, shape, and core material; number of windings; termination types; and performance to any design's specifications

## Applications

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

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