

1.5 kV Automotive and Commercial IHDV Inductors in Compact Sizes Deliver Over 1 k Ω Impedance to Filter Noise Above 10 MHz, Soft Saturation for Stable Inductance, +180 °C Continuous Operation, and Enhanced Resistance to Shock and Vibration

Product Benefits:

- Isolation voltage rating of 1.5 kV
- Available in 0808 (20 mm x 14 mm x 14 mm) and 1008 (25 mm x 20 mm x 23 mm) case sizes
- Continuous high temperature operation to 180 °C
- Soft saturation maximizes ripple control at high currents
- High filtering impedance:
 - 0808 models: 1 k Ω at 80 MHz
 - 1008 models: 2.8 k Ω at 25 MHz
- Additional support pins increase resistance to shock and vibration
- AEC-Q200 qualified (IHDV-0808AC-3A and IHDV-1008BB-3A)
- RoHS-compliant, halogen-free, and Vishay Green



Market Applications:

- On-board chargers, battery-charging circuits, power factor correction (PFC), and high voltage DC battery filtering

The News:

Vishay Intertechnology introduces the first four devices in its new IHDV line of high voltage power inductors for next-generation automotive, energy, and industrial systems. Engineered for designs requiring 1.5 kV isolation voltages, and available in compact 0808 (20 mm x 14 mm x 14 mm) and 1008 (25 mm x 20 mm x 23 mm) case sizes, the Automotive Grade IHDV-0808AC-3A and IHDV-1008BB-3A and commercial IHDV-0808AC-30 and IHDV-1008BB-30 combine continuous high temperature operation to 180 °C with soft saturation performance.

- To extend the voltage capability beyond the 350 V typical of existing inductors, the devices incorporate a PET plastic coilform insulator that supports 1.5 kV isolation voltage
- Enabled by a powdered iron alloy core, their soft saturation behavior allows inductance to remain stable under load for effective ripple current regulation, while withstanding transient in-rush currents up to five times their heat rating current
- For high frequency filtering, the IHDV devices deliver up to three times higher impedance than similarly sized iron composite inductors at four times the frequency
- The 0808 devices offer a compact, surface-mount footprint roughly one-third the volume of the 1008 model, while the larger 1008 inductors feature through-hole terminations that deliver maximum mechanical strength in rugged environments



The Key Specifications:

Part number	IHDV-0808AC-3A	IHDV-0808AC-30	IHDV-1008BB-3A	IHDV-1008BB-30
Dimensions (mm)	20 x 14 x 14		25 x 20 x 23	
Inductance (μH)	1.9		10	
DCR typ. ($\text{m}\Omega$)	1.3		2.7	
DCR max. ($\text{m}\Omega$)	1.5		2.9	
Heat rating current typ. (A) ⁽¹⁾	30.0		30.0	
Saturation current typ. (A) ⁽²⁾	110		68	
SRF typ. (MHz)	83		22	
AEC-Q200	Yes	No	Yes	No

⁽¹⁾ DC current (A) that will cause an approximate ΔT of 40 °C

⁽²⁾ DC current (A) that will cause L_0 to drop approximately 30 %

Availability:

Samples and production quantities of the IHDV inductors are available now, with lead times of 12 weeks.

To access the product datasheets on the Vishay Website, go to

<http://www.vishay.com/ppg?34666> (IHDV0808AC-3A)

<http://www.vishay.com/ppg?34679> (IHDV0808AC-30)

<http://www.vishay.com/ppg?34680> (IHDV1008BB-3A)

<http://www.vishay.com/ppg?34683> (IHDV1008BB-30)

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