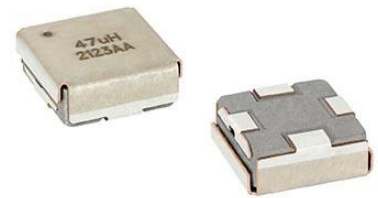


# Second-Generation Automotive Grade IHLE<sup>®</sup> Inductor With Integrated EMI Shield in 4040 Case Size Delivers Improved Shield Design, Higher Voltage Ratings, and Polarity Markings for Additional EMI Control

## Product Benefits:

- Reduces radiated E-field by up to 20 dB
- Reduces crosstalk and magnetic B-field leakage by 6 dB to nearby components
- High temperature operation up to +155 °C
- Improved shield design over standard IHLE inductors
- Higher operating voltage (75 V) and isolation voltage (100 V) ratings than previous-generation devices
- Polarity marked for more consistent EMI performance
- Shielded from external noise
- Four terminals provide improved mounting stability in 50G applications
- Integrated E-field shield eliminates the need for separate shielding
- AEC-Q200 qualified
- Patented shield construction
- RoHS-compliant, halogen-free, and [Vishay Green](#)



## Market Applications:

- Automotive domain control units (DCU) and transmission / engine control
- DC/DC converters for infotainment, navigation, and braking systems
- Noise suppression for motors, windshield wipers, audio, and power supplies
- LED lighting drivers

## The News:

Vishay Intertechnology expands its IHLE<sup>®</sup> series of low profile, high current inductors featuring integrated E-field shields with a new second-generation Automotive Grade device in the 10 mm by 10 mm 4040 case size. Offering an improved shield design over previous-generation solutions, and polarity marked for more consistent EMI performance, the Vishay Dale IHLE-4040DDEW-5A lowers costs and saves board space by potentially eliminating the need for separate board-level Faraday shielding.

- Compared to traditional composite inductors, the IHLE-4040DDEW-5A contains the electric and magnetic fields associated with EMI in a tin-plated copper integrated shield
  - When the shield is connected to ground, the device provides up to 20 dB reduction in radiated noise interference, and a further 6 dB reduction in magnetic flux leakage to minimize crosstalk to nearby board components
- Packaged in a 100 % lead (Pb)-free, magnetically shielded, iron alloy encapsulant
- The IHLE-4040DDEW-5A offers high resistance to thermal shock, moisture, and mechanical shock from the additional mounting support provided by its two shield terminals



## The Key Specifications:

	Low End	High End
Inductance @ 100 kHz ( $\mu\text{H}$ )	0.47	68
DCR typ. @ 25 °C ( $\text{m}\Omega$ )	1.55	240
DCR max. @ 25 °C ( $\text{m}\Omega$ )	1.66	252
Heat rating current typ. (A) <sup>(1)</sup>	32	2.6
Saturation current typ. (A) <sup>(2)</sup>	28	3.5
Saturation current typ. (A) <sup>(3)</sup>	40.1	4.9
SRF typ. (MHz)	32.0	3.5
Case size	4040	4040
Part number	IHLE4040DDEWR47M5A	IHLE4040DDEW680M5A

<sup>(1)</sup> DC current (A) that will cause an approximate  $\Delta T$  of 40 °C

<sup>(2)</sup> DC current (A) that will cause  $L_0$  to drop approximately 20 %

<sup>(3)</sup> DC current (A) that will cause  $L_0$  to drop approximately 30 %

### Availability:

Samples and production quantities of the IHLE-4040DDEW-5A are available now, with lead times of 16 weeks.

To access the product datasheet on the Vishay Website, go to <http://www.vishay.com/ppg?34587> (IHLE-4040DDEW-5A)

### Contact Information:

#### THE AMERICAS

Mariya Sachek  
[mariya.sachek@vishay.com](mailto:mariya.sachek@vishay.com)

#### EUROPE

Jens Walther  
[Jens.Walther@vishay.com](mailto:Jens.Walther@vishay.com)

#### ASIA/PACIFIC

Jacky Kim  
[jacky.kim@vishay.com](mailto:jacky.kim@vishay.com)