Automotive Power Inductor, High Isolation Voltage 1.5 kV, Through-Hole, High Temperature 180 °C

FEATURES

- Size: 25.0 mm x 19.8 mm x 23.0 mm
- High isolation voltage 1.5 kV_{DC}
- Support pins for added mechanical stability
- High impedance for differential filtering applications (2.8 kΩ at 22 MHz peak frequency)
- Soft saturation provides stable inductance with transient current handling 5 x the heat rating current
- AEC-Q200 qualified
- High temperature continuous operation up to 180 °C
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

AUTOMOTIVE GRADE

Pb-free

RoHS COMPLIANT

HALOGEN FREE

GREEN (5-2008)

LINKS TO ADDITIONAL RESOURCES

Product Page Calculators

MATERIAL SPECIFICATIONS

- Core: powdered iron alloy
- Wire: 200 °C polyamide insulated copper
- Plating: terminals solder dipped in tin alloy (Sn99.3Cu0.7), mounting pins electroplated with 100 % matte tin
- Weight: 47.1 g

APPLICATIONS

- Automotive on-board chargers (OBC)
- High voltage inverters and systems
- Power factor correction (PFC)
- High voltage DC battery filter

STANDARD ELECTRICAL SPECIFICATIONS

PART NUMBER	L_0 INDUCTANCE ± 20 % AT 0.25 V, 100 kHz, 0 A (μH)	DCR AT 25 °C (mΩ)	DCR AT 25 °C (mΩ)	HEAT RATING CURRENT DC (A) (1)	SATURATION CURRENT DC (A) (2)		SRF TYP. (MHz)
		TYP.	MAX.	TYP.	20 % DROP	30 % DROP	
IHDV1008BBEV100M3A	10	2.7	2.9	30	53	68	22

Notes

- All test data is referenced to 25 °C ambient
- Operating temperature range -40 °C to +180 °C
- The part temperature (ambient + temperature rise) should not exceed the maximum rating under worst case operating conditions. Circuit design, component placement, PCB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application
- Isolation voltage (coil to core or coil to mounting pin) = 1.5 kV_{DC}, 5 mA, 5 s

(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 20 % and 30 %, respectively

For technical questions, contact: magnetics@vishay.com

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DIMENSIONS in inches [millimeters]

SCHEMATIC

DESCRIPTION

IHDV-1008BB-3A	10 µH	± 20 %	EV	e2
MODEL	INDUCTANCE VALUE	INDUCTANCE TOLERANCE	PACKAGE CODE	JEDEC® LEAD (Pb)-FREE STANDARD

GLOBAL PART NUMBER

I H D V	1 0 0 8 B B	E	V	1 0 0	M	3 A
PRODUCT FAMILY	SIZE	PACKAGE CODE	MOUNTING STYLE	INDUCTANCE VALUE	INDUCTANCE TOLERANCE	SERIES
		E = tray pack (90 pcs/box)	**V** = vertical THT	**100** = 10 µH	**M** = ± 20 %	

Note

- For additional packaging details see "Packaging Methods"

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PERFORMANCE GRAPHS

PERFORMANCE GRAPHS: INDUCTANCE AND Q VS. FREQUENCY

PERFORMANCE GRAPHS: IMPEDANCE

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