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Vishay Dale

AUTOMOTIVE GRADE

RoHS

COMPLIANT

HALOGEN

FREE

GREEN

<u>(5-2008)</u>

Low Profile, High Current Inductors with e-field Shield



Manufactured under one or more of the following: **US Patents**; **6,198,375/6,204,744/6,449,829/6,460,244.** Several foreign patents, and other patents pending.

STANDARD ELECTRICAL SPECIFICATIONS								
L ₀ INDUCTANCE ± 20 % AT 100 kHz, 0.25 V, 0 A (μH)	DCR TYP. 25 °C (mΩ)	DCR MAX. 25 °C (mΩ)	HEAT RATING CURRENT DC TYP. (A) ⁽³⁾	SATURATION CURRENT DC TYP. (A) ⁽⁴⁾	SRF TYP. (MHz)			
0.47	1.55	1.66	30.0	28.5	72.1			
1.0	2.87	3.07	23.5	24.0	37.2			
1.5	4.2	4.5	22.0	17.9	32			
2.2	8.15	8.76	15.0	12.0	30.1			
3.3	11.0	11.81	11.0	12.0	25.5			
4.7	14.3	15.32	9.8	9.2	20.1			
5.6	16.5	17.60	9.3	9.0	16.3			
6.8	20.9	22.36	9.1	9.0	16.3			
10	30.9	33.06	6.5	8.5	11.5			
15	47.0	50.29	5.1	7.7	10.4			
22	70.5	75.44	4.1	6.4	8.30			
33	110	117.70	3.7	4.2	5.79			
47	167	178	2.5	4.5	5.22			
68	240	252	2.4	3.5	4.02			

Notes

- (1) All test data is referenced to 25 °C ambient
- (2) Operating temperature range -55 °C to +155 °C
- (3) DC current (A) that will cause an approximate ΔT of 40 °C
- $^{(4)}\,$ DC current (A) that will cause L_0 to drop approximately 20 %
- (5) The part temperature (ambient + temp. rise) should not exceed 155 °C under worst case operating conditions. Circuit design, component placement, PWB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application.

FEATURES

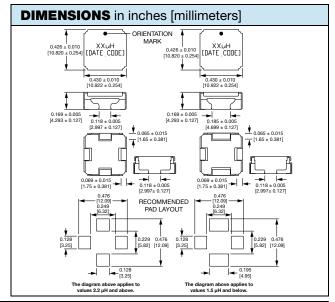
- High temperature, up to 155 °C
- Integrated E-Shield for maximum EM reduction (1)
- Excellent DC/DC energy storage up to 1 MHz to 2 MHz. Filter inductor applications up the SRF (see Standard Electrical Specifications table).
- Integrated e-field shield eliminates need for separate shielding
- 20 dB e-field reduction at 1 cm
 - Measured vertically from top center of device
- Lowest DCR/µH, in this package size
- Handles high transient current spikes without saturation
- Coplanarity of the 4 terminals ≤ 100 µm
- AEC-Q200 qualified
- Material categorization: for definitions of compliance please see <u>www.vishay.com/doc?99912</u>

Note

(1) Maximum e-field reduction is realized with the IHLE shield is connected to ground.

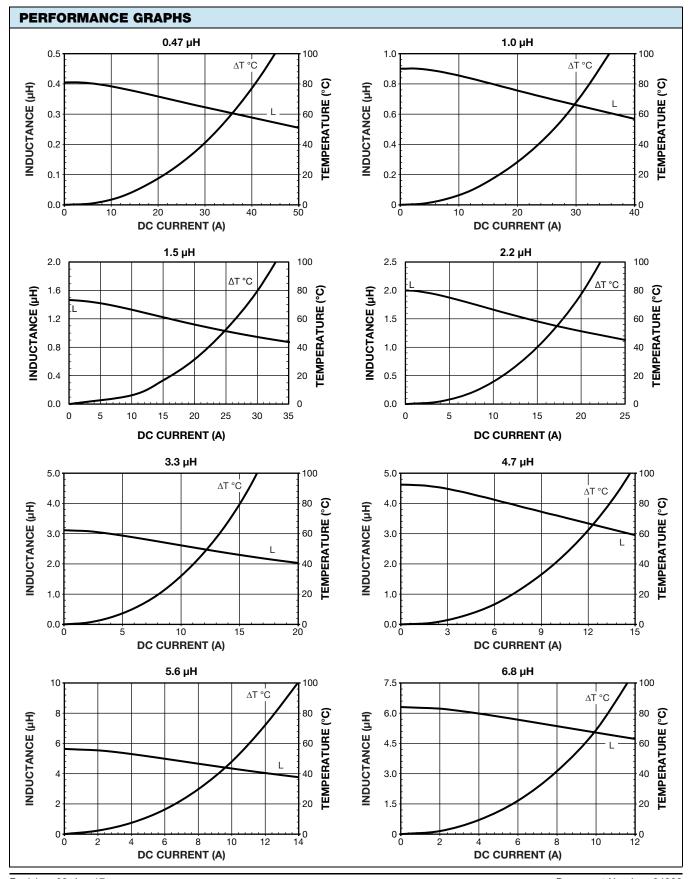
APPLICATIONS

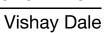
- Engine and transmission control units
- Diesel injection drivers
- DC/DC converters for entertainment/navigation systems
- Noise suppression for motors
 - Windshield wipers
 - Power seats
 - Power mirrors
 - Heating and ventilation blowers
 - HID lighting
- LED drivers



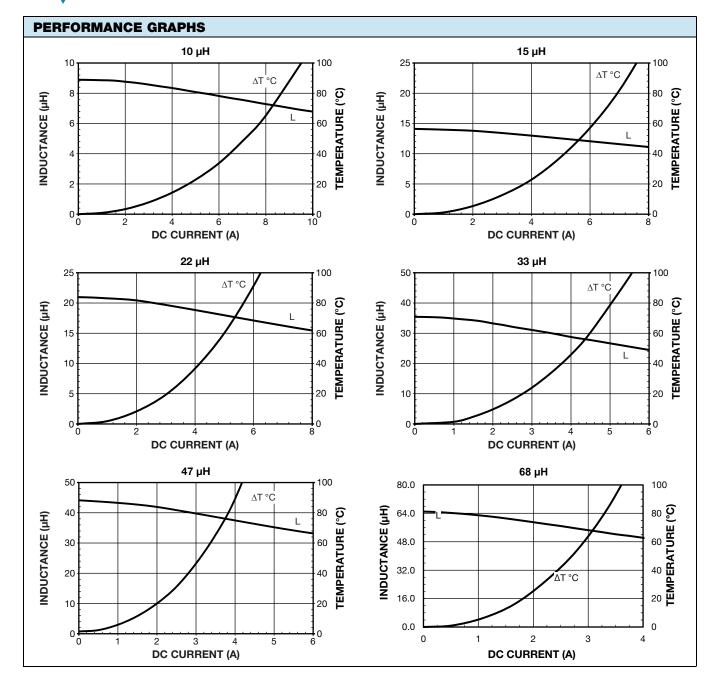
DESCRIPTION							
IHLE-4040DD-5A	33 µH	± 20 %	ER	е	e3		
MODEL	INDUCTANCE VALUE	INDUCTANCE TOLERAN	CE PACKAGE CODE	E JEDEC® LEAD (Pb)	-FREE STANDARD		
GLOBAL PART	T NUMBER						
I H L	E 4 0	4 0 D I	D E R 3	3 0 N	M 5 A		
PRODUCT FAM	IILY	SIZE	PACKAGE CODE	INDUCTANCE TO VALUE	DL. SERIES		



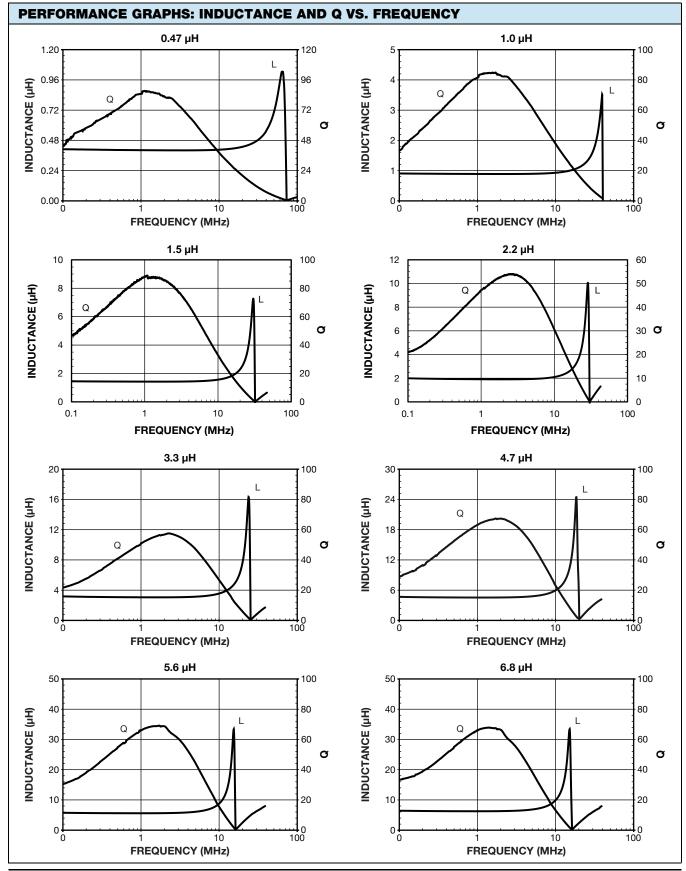


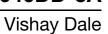




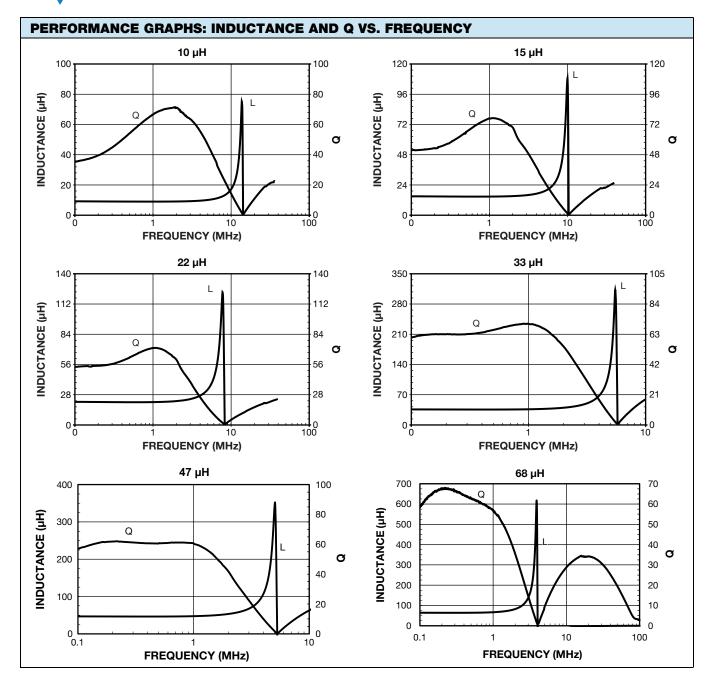














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