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.

FEATURES

- High temperature, up to 155 °C
- Shielded construction
- Frequency range up to 1 MHz
- 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 www.vishay.com/doc?99912

AUTOMOTIVE GRADE

Pb-free

RoHS COMPLIANT

APPLICATIONS

- Engine and transmission control units
- Diesel injection drivers
- Noise suppression for motors
  - Windshield wipers, power seats, power mirrors, heating and ventilation blowers, HID lighting
- LED drivers

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)
0.47	1.55	1.66	30.0	28.5
1.0	2.87	3.07	23.5	24.0
2.2	8.15	8.76	15.0	12.0
3.3	11.0	11.81	11.0	12.0
4.7	14.3	15.32	9.8	9.2
5.6	16.5	17.60	9.3	9.0
6.8	20.9	22.36	9.1	9.0
10	30.9	33.06	6.5	8.5
15	47.0	50.29	5.1	7.7
22	70.5	75.44	4.1	6.4
33	110	117.70	3.7	4.2
47	167	178.00	2.5	4.5

Notes

(1) All test data is referenced to 25 °C ambient

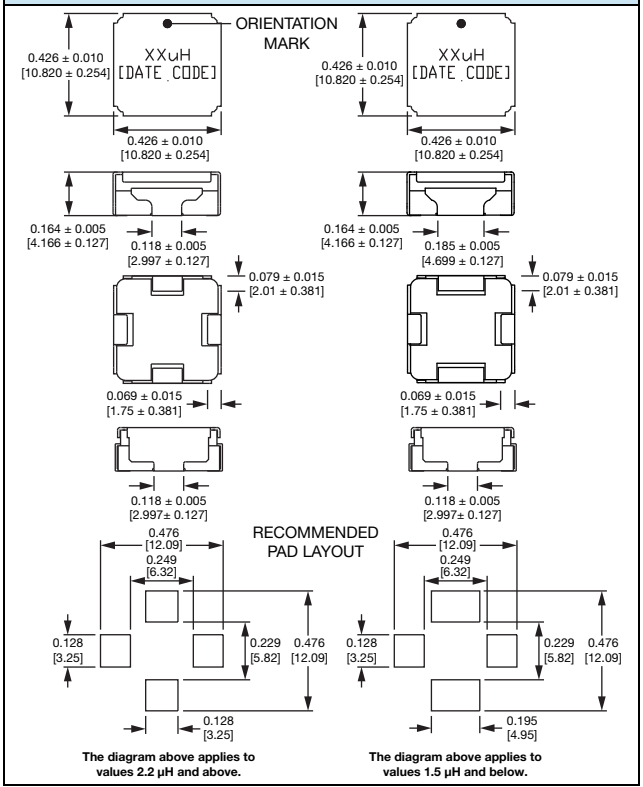
(2) Operating temperature range -55 °C to +155 °C

(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.

DIMENSIONS in inches [millimeters]



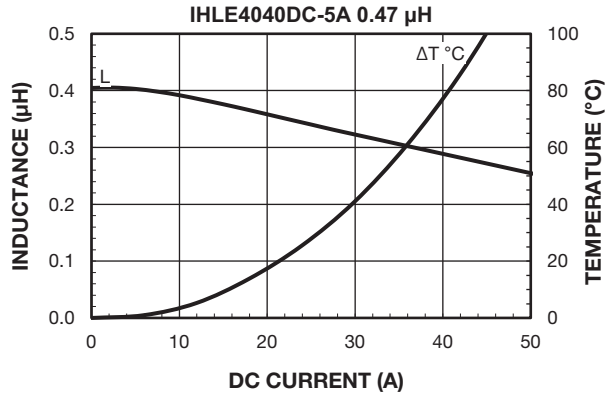
DESCRIPTION

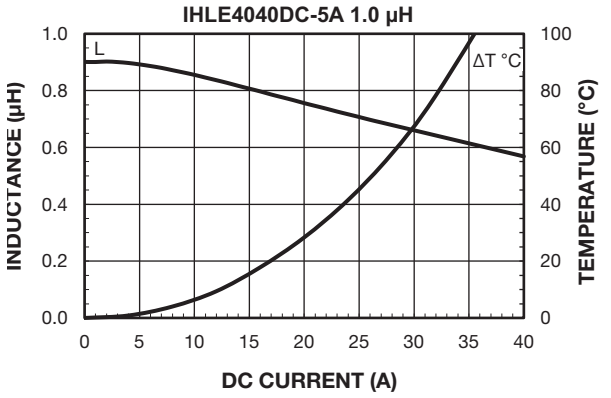
IHLE-4040DC-5A	33 µH	± 20 %	ER	e3
MODEL	INDUCTANCE VALUE	INDUCTANCE TOLERANCE	PACKAGE CODE	JEDEC® LEAD (Pb)-FREE STANDARD

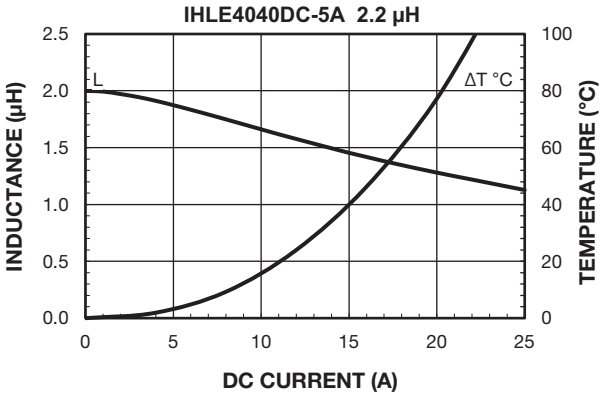
GLOBAL PART NUMBER

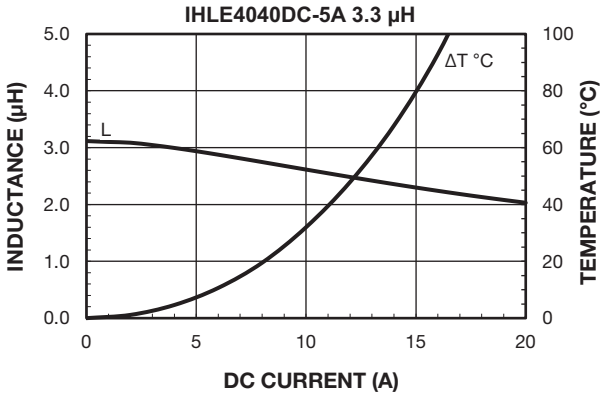
I	H	L	E	4	0	4	0	D	C	E	R	3	3	0	M	5	A
PRODUCT FAMILY				SIZE						PACKAGE CODE		INDUCTANCE VALUE			TOL.	SERIES	

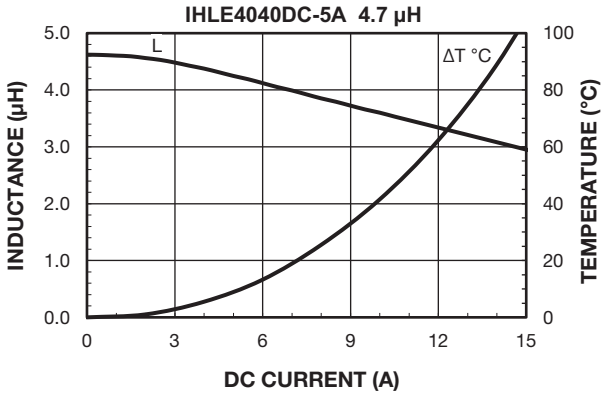
PERFORMANCE GRAPHS

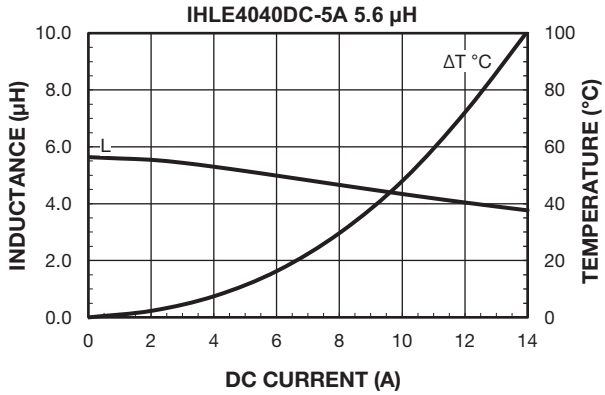












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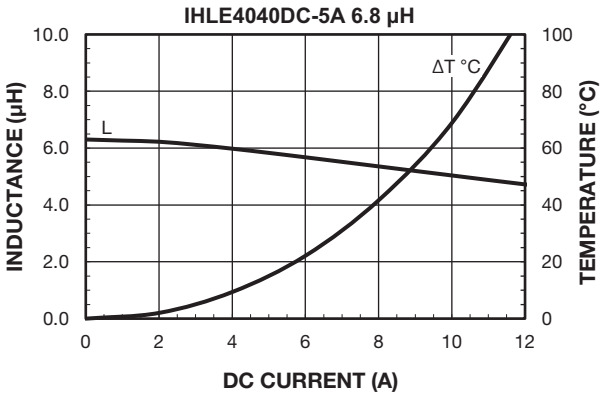
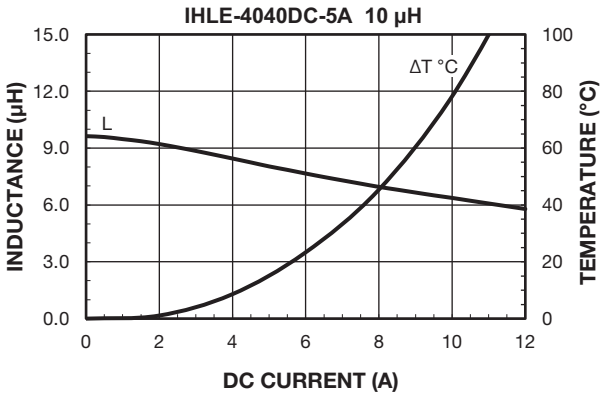
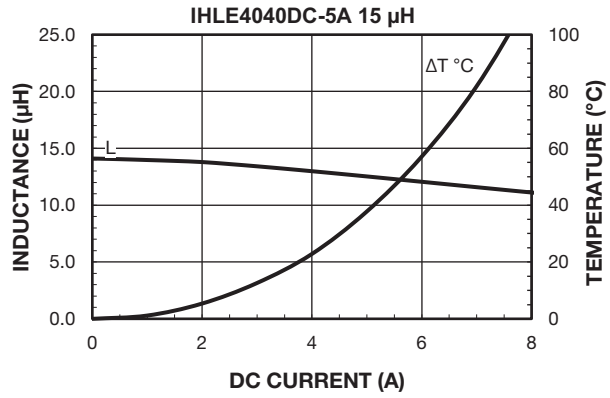
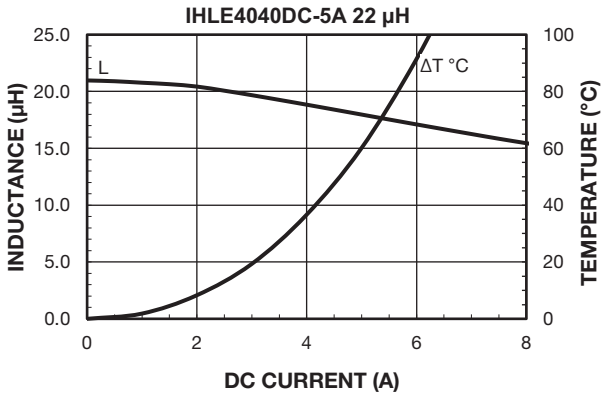
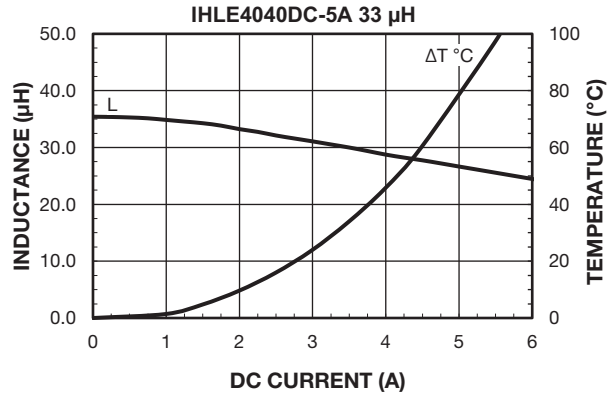
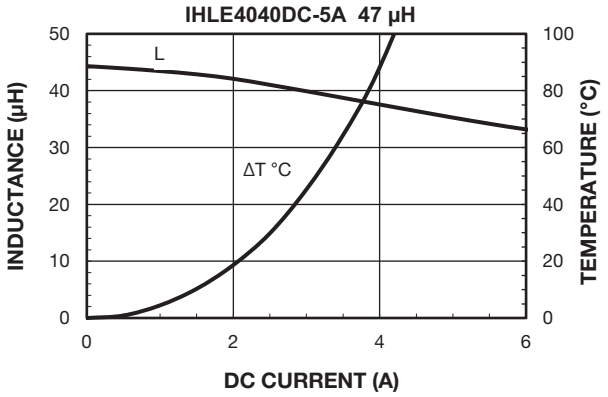




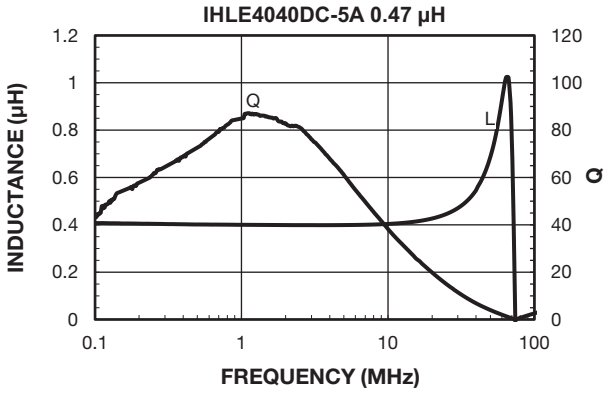


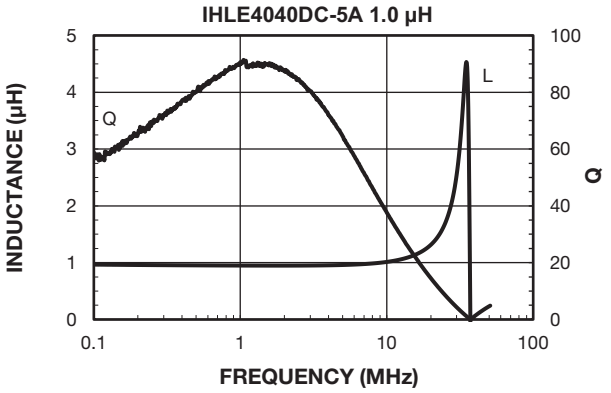


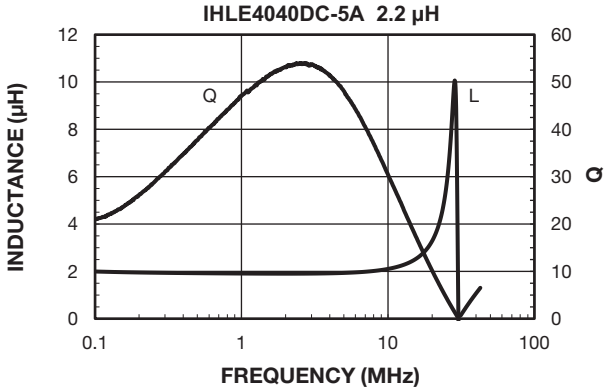


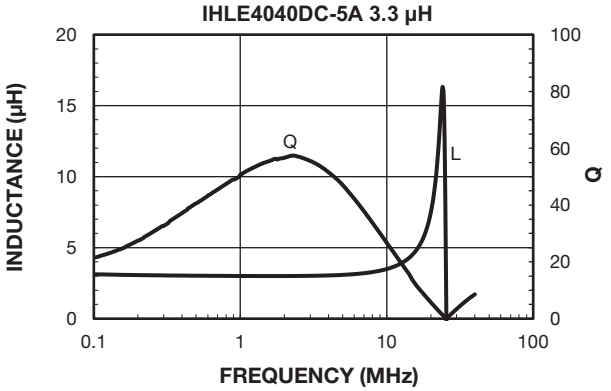


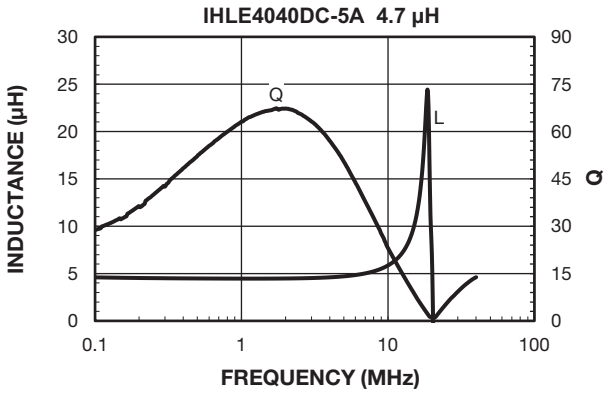
PERFORMANCE GRAPHS: INDUCTANCE AND Q VS. FREQUENCY

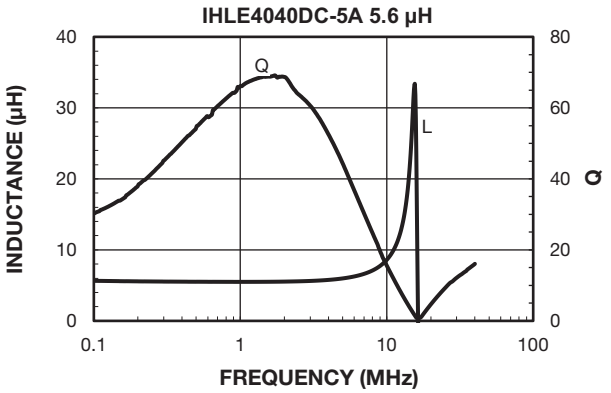












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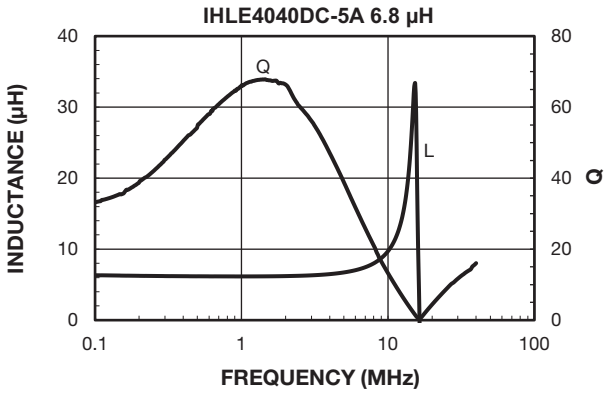

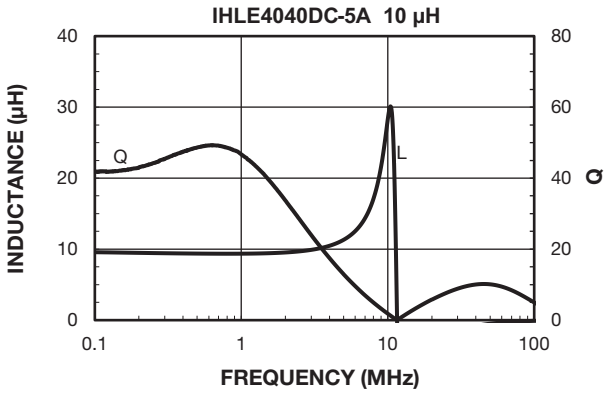

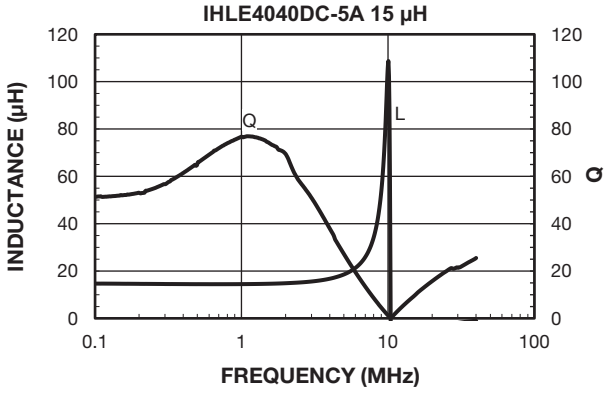

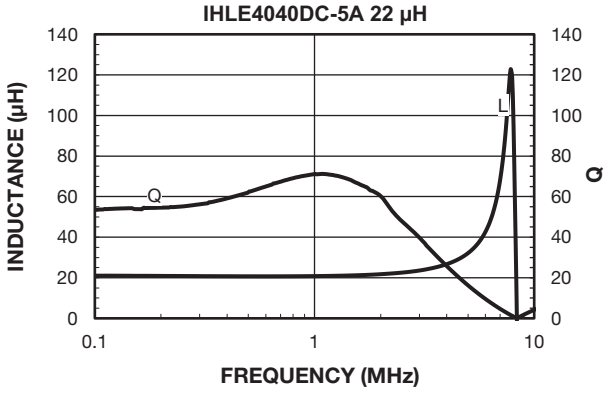

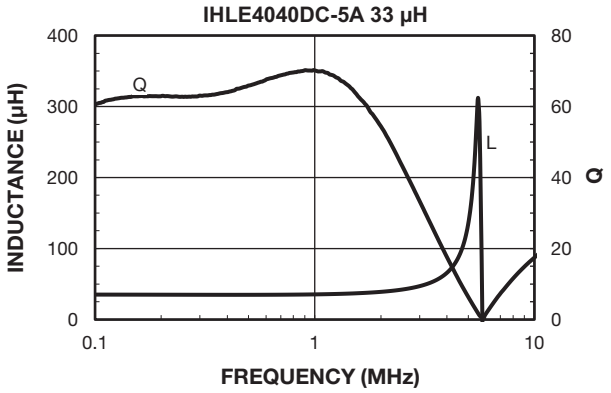

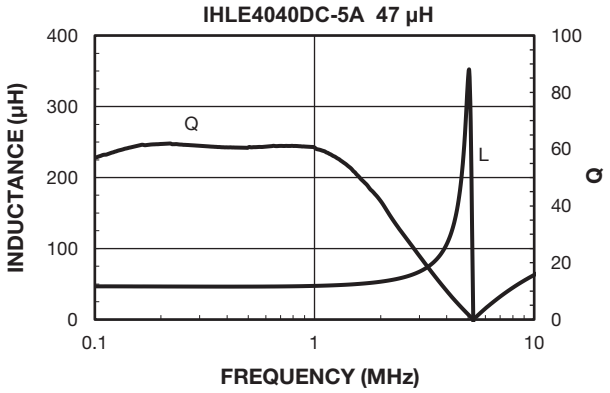

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