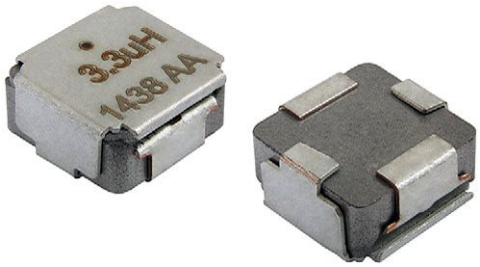
IHLE® High Current Inductors With E-Field Shield



LINKS TO ADDITIONAL RESOURCES

Calculators

FEATURES

- High temperature, up to 155 °C
- Integrated E-Shield for maximum EMI 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
- IHLE design; PATENT(S): www.vishay.com/patents
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

Note

(1) Maximum E-Field reduction is realized when the IHLE shield is connected to ground

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) (1)	SATURATION CURRENT DC TYP. (A) (2)	SRF TYP. (MHz)
0.47	3.87	4.14	20.0	14.0	82.4
0.68	5.38	5.76	16.5	17.0	56.1
0.82	6.75	7.22	13.8	16.8	68.6
1.0	7.90	8.45	12.0	13.0	53.2
1.5	12.3	13.2	10.6	11.6	45.9
2.2	17.1	18.30	8.1	10.8	31.2
3.3	26.5	28.40	6.8	8.3	28.6
4.7	35.9	38.40	5.6	5.6	25.5
5.6	42.6	45.60	5.3	4.8	22.8
6.8	53.8	57.60	4.4	4.4	19.6
10	71.9	76.90	4.0	2.9	14.0
15	98.9	105.9	3.7	2.8	10.4
22	163.0	174.00	2.8	2.2	8.3

Notes

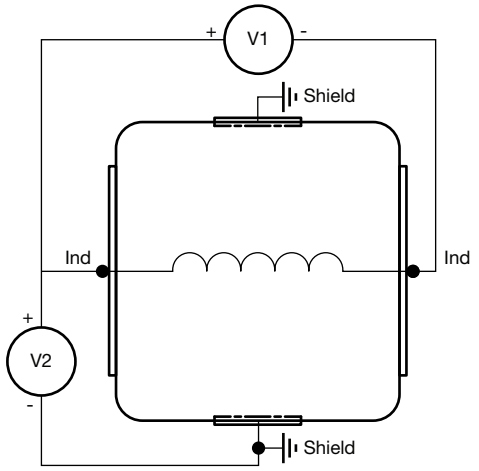
- All test data is referenced to 25 °C ambient
- Operating temperature range -55 °C to +155 °C
- The part temperature (ambient + temp. rise) should not exceed 155 °C under worst case operating conditions. Circuit design, component placement, PWB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application
- Rated operating voltage, across inductor (V1) = 50 V
- Rated isolation voltage, inductor lead to shield (V2) = 50 V

(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 %

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 blower
  - HID lighting
- LED drivers



PATENT(S): www.vishay.com/patents

This Vishay product is protected by one or more United States and international patents.

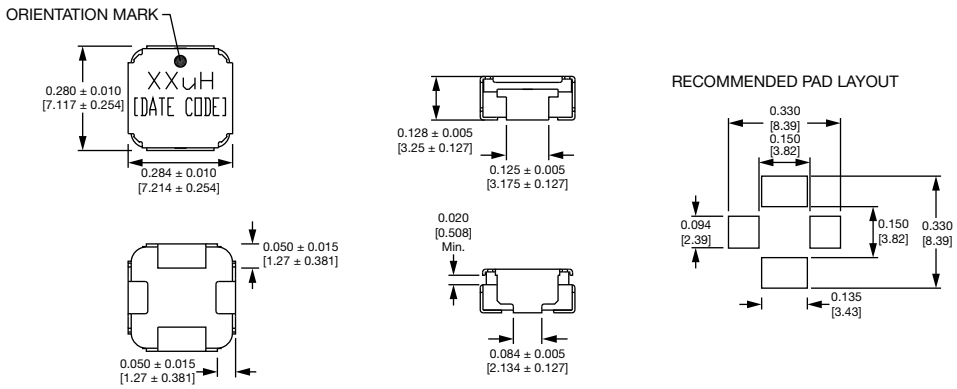
DESCRIPTION

IHLE-2525CD-5A	15 µH	± 20 %	ER	e3
MODEL	INDUCTANCE VALUE	INDUCTANCE TOLERANCE	PACKAGE CODE	JEDEC® LEAD (Pb)-FREE STANDARD

GLOBAL PART NUMBER

I	H	L	E	2	5	2	5	C	D	E	R	1	5	0	M	5	A
PRODUCT FAMILY				SIZE						PACKAGE CODE		INDUCTANCE VALUE			TOL.	SERIES	

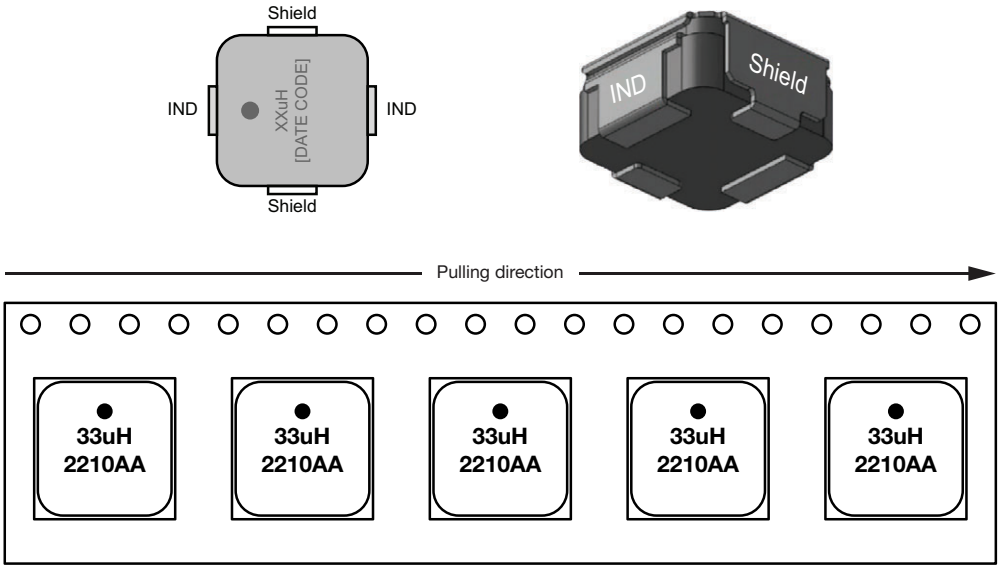
DIMENSIONS in inches [millimeters]



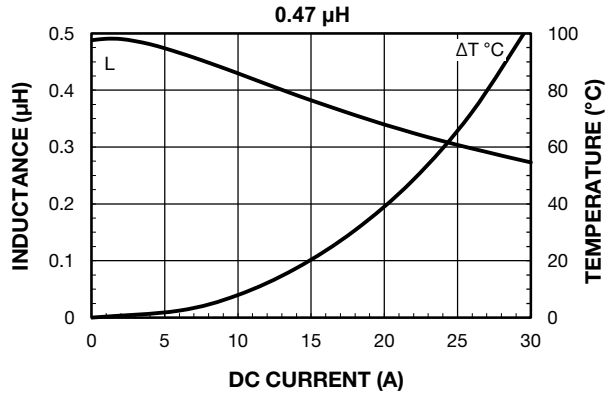
Notes

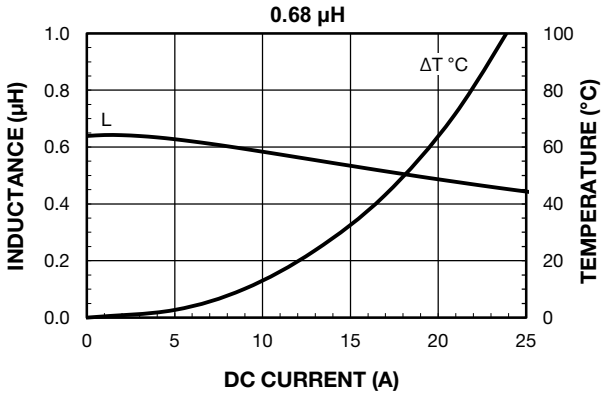
- Dot indicate the coil termination
- Coplanarity of 4 terminals: 0.004” [0.10]

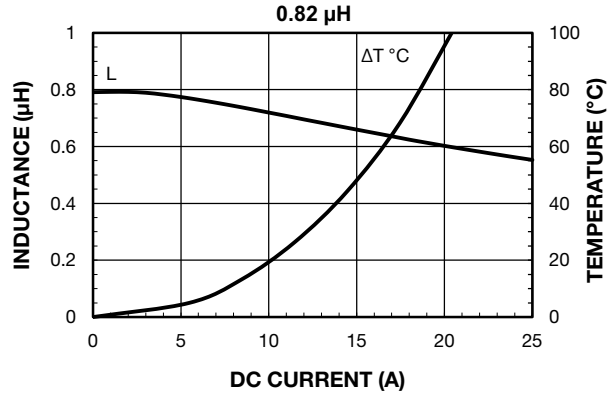
PART MARKING / POCKET TAPE ORIENTATION

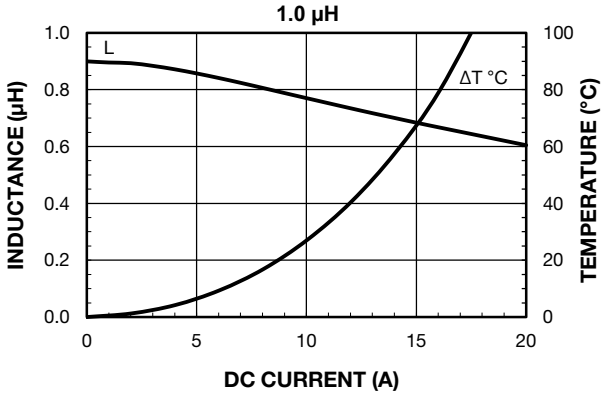


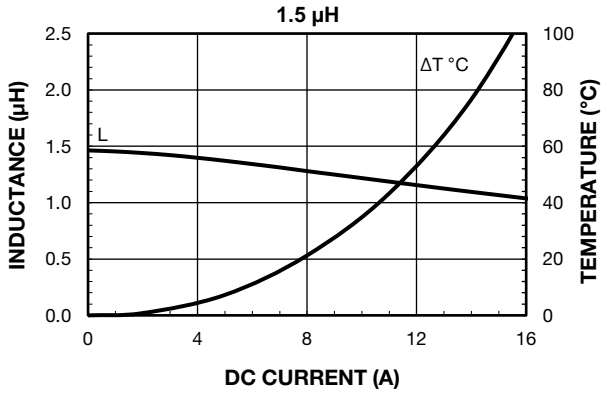
PERFORMANCE GRAPHS

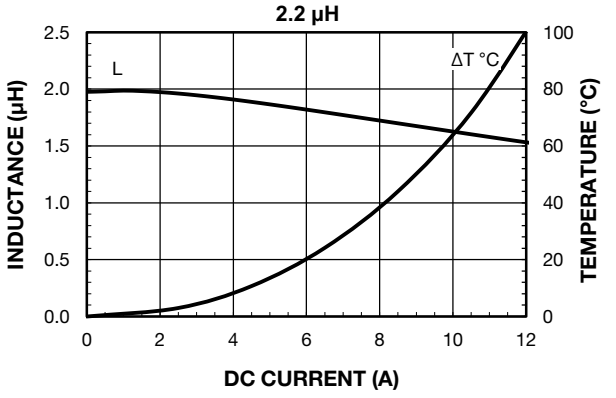


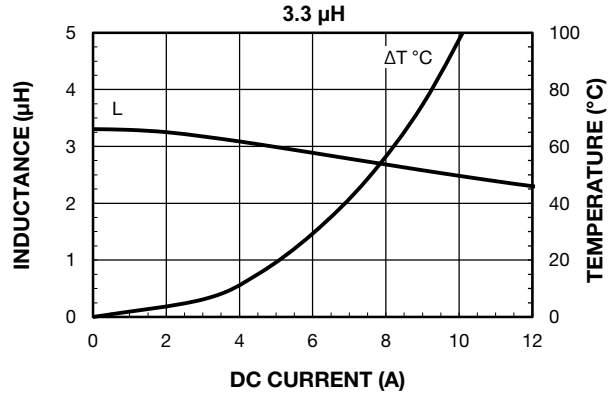


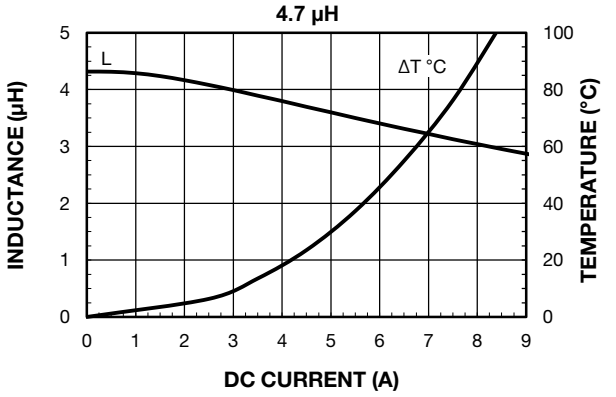












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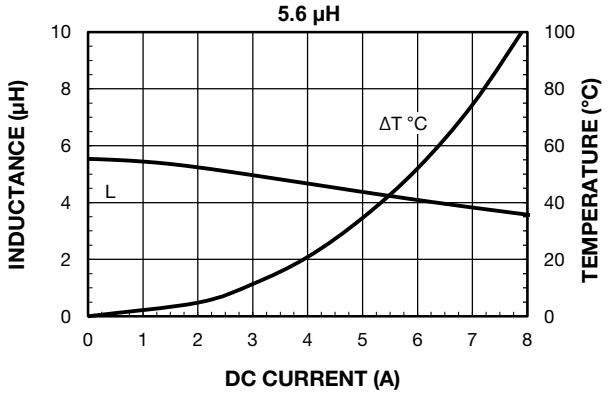
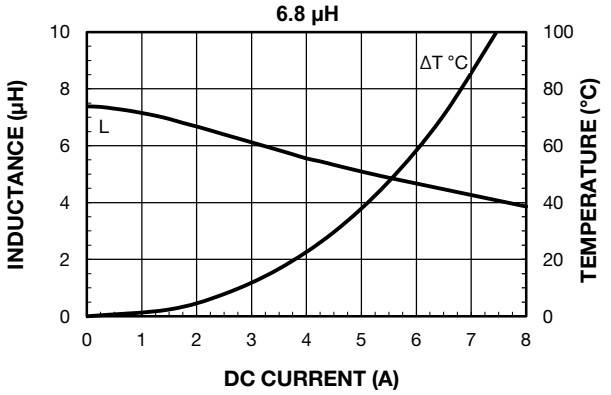
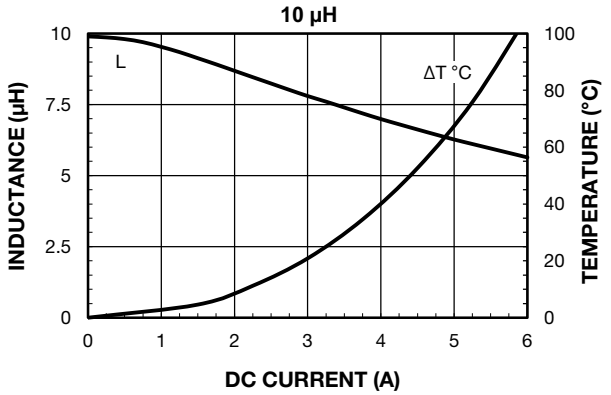
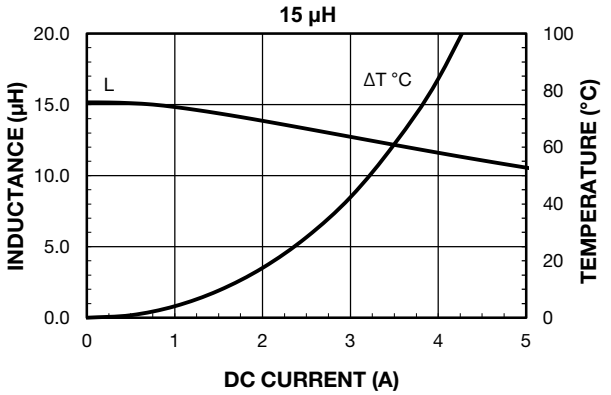
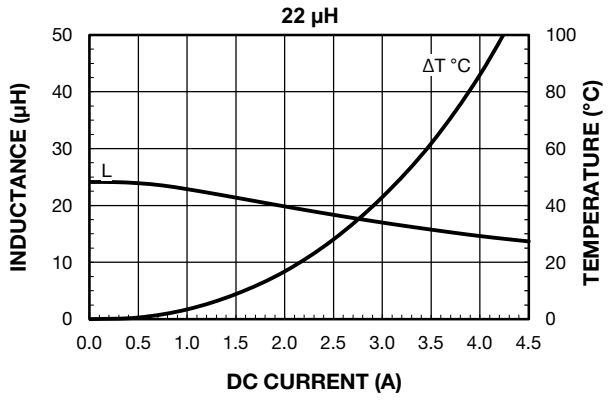


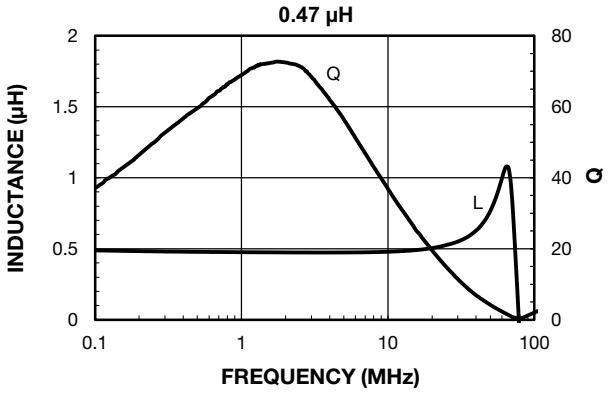


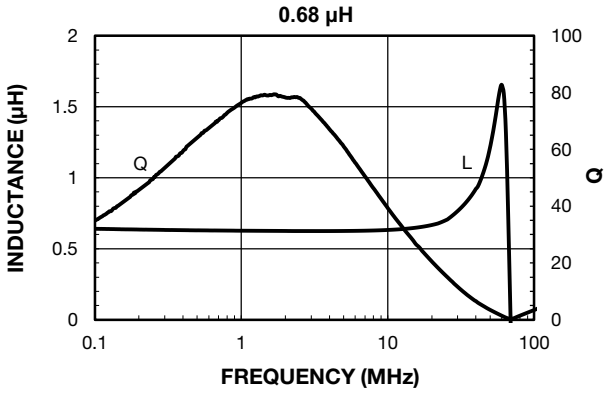


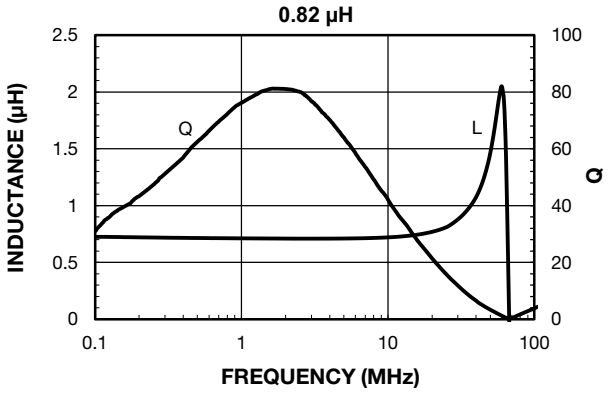


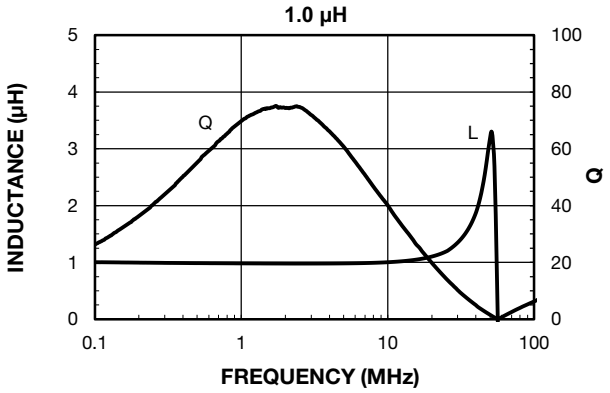


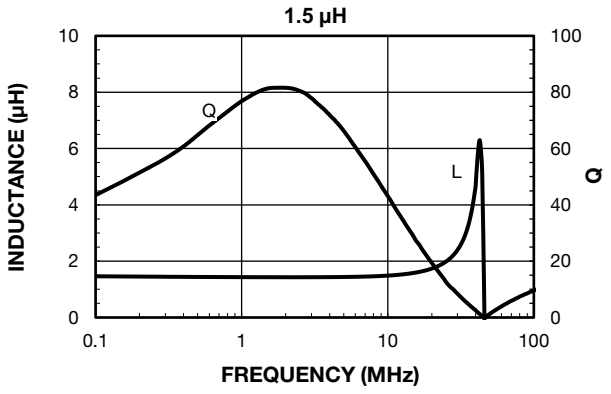
PERFORMANCE GRAPHS: INDUCTANCE AND Q VS. FREQUENCY

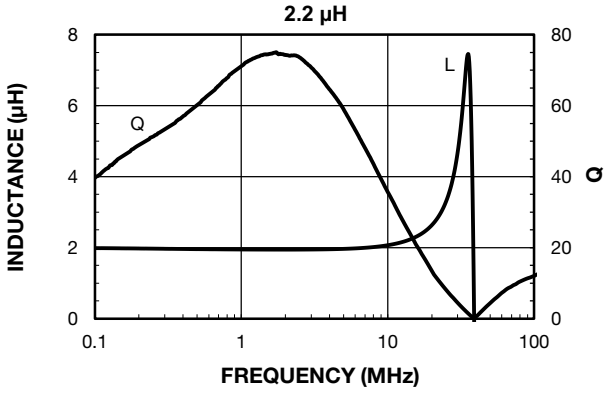


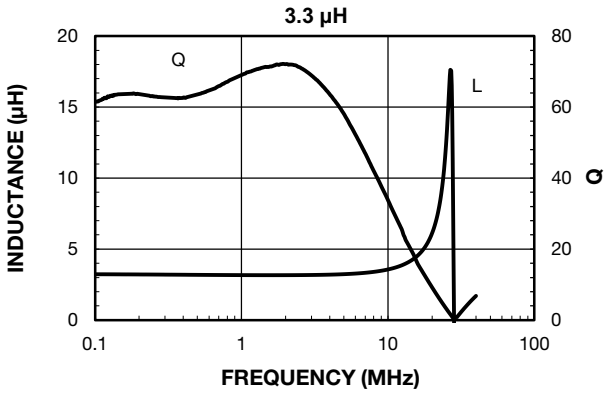


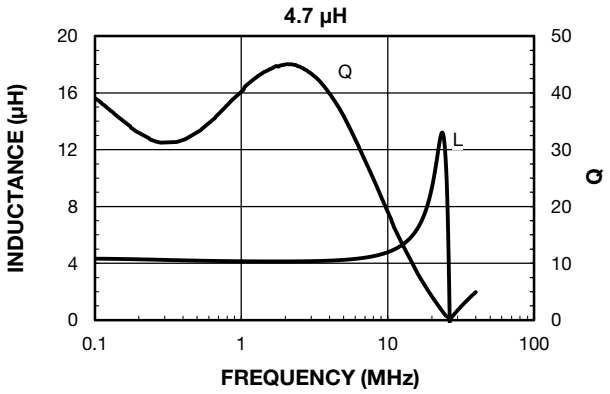












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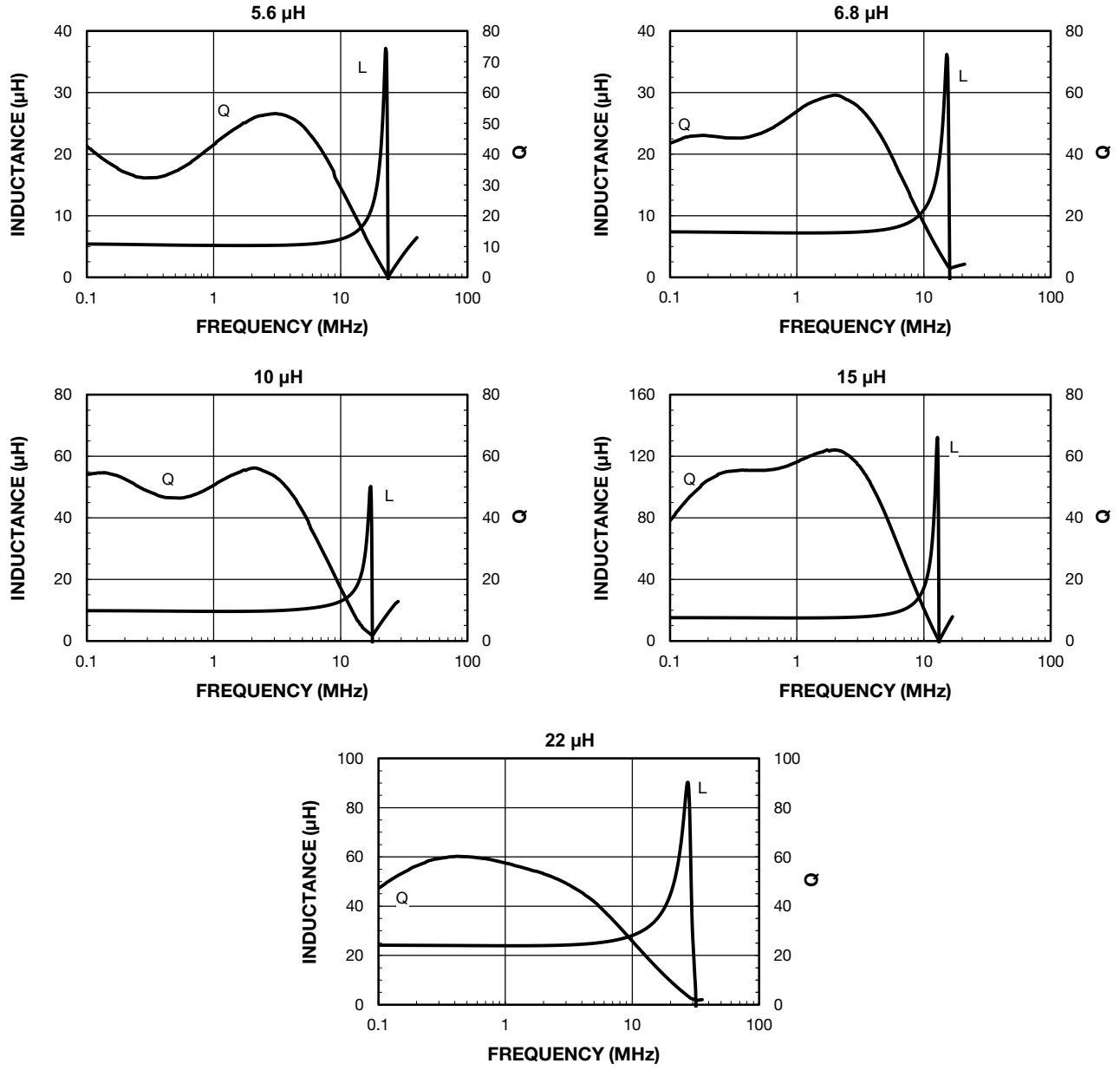

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