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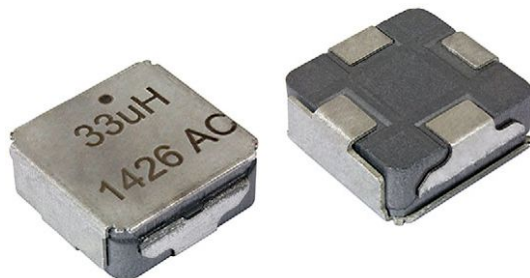
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Low Profile, High Current Inductors with e-field Shield



DESIGN SUPPORT TOOLS click logo to get started



STANDARD ELECTRICAL SPECIFICATIONS

L_0 INDUCTANCE $\pm 20\%$ AT 100 kHz, 0.25 V, 0 A (μH)	DCR TYP. 25 °C (m Ω)	DCR MAX. 25 °C (m Ω)	HEAT RATING CURRENT DC TYP. (A) ⁽¹⁾	SATURATION CURRENT DC TYP. (A) ⁽²⁾	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	3.1	4.1	5.22
68	240	252	2.4	3.5	4.02

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) = 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 %

DESCRIPTION

IHLE-4040DD-5A	33 μH	$\pm 20\%$	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	D	E	R	3	3	0	M	5	A
PRODUCT FAMILY				SIZE						PACKAGE CODE		INDUCTANCE VALUE			TOL.	SERIES	

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 $\leq 100\ \mu\text{m}$
- AEC-Q200 qualified
- Patent pending**
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

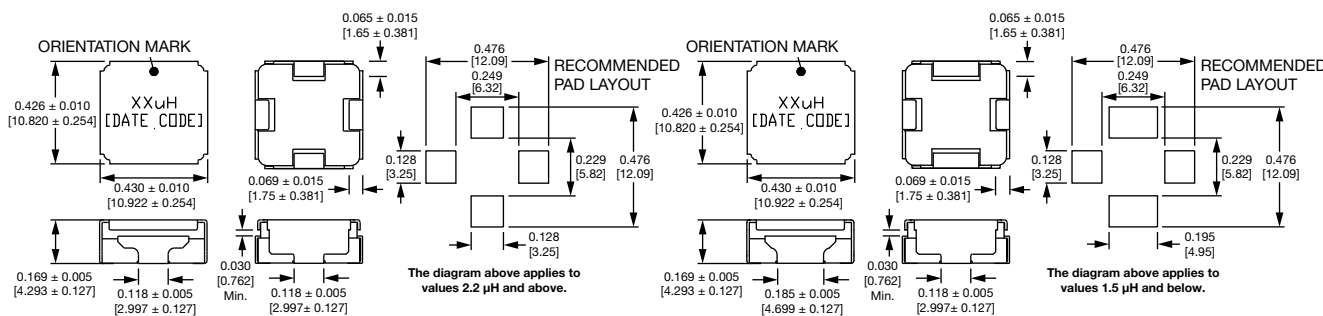
Note

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

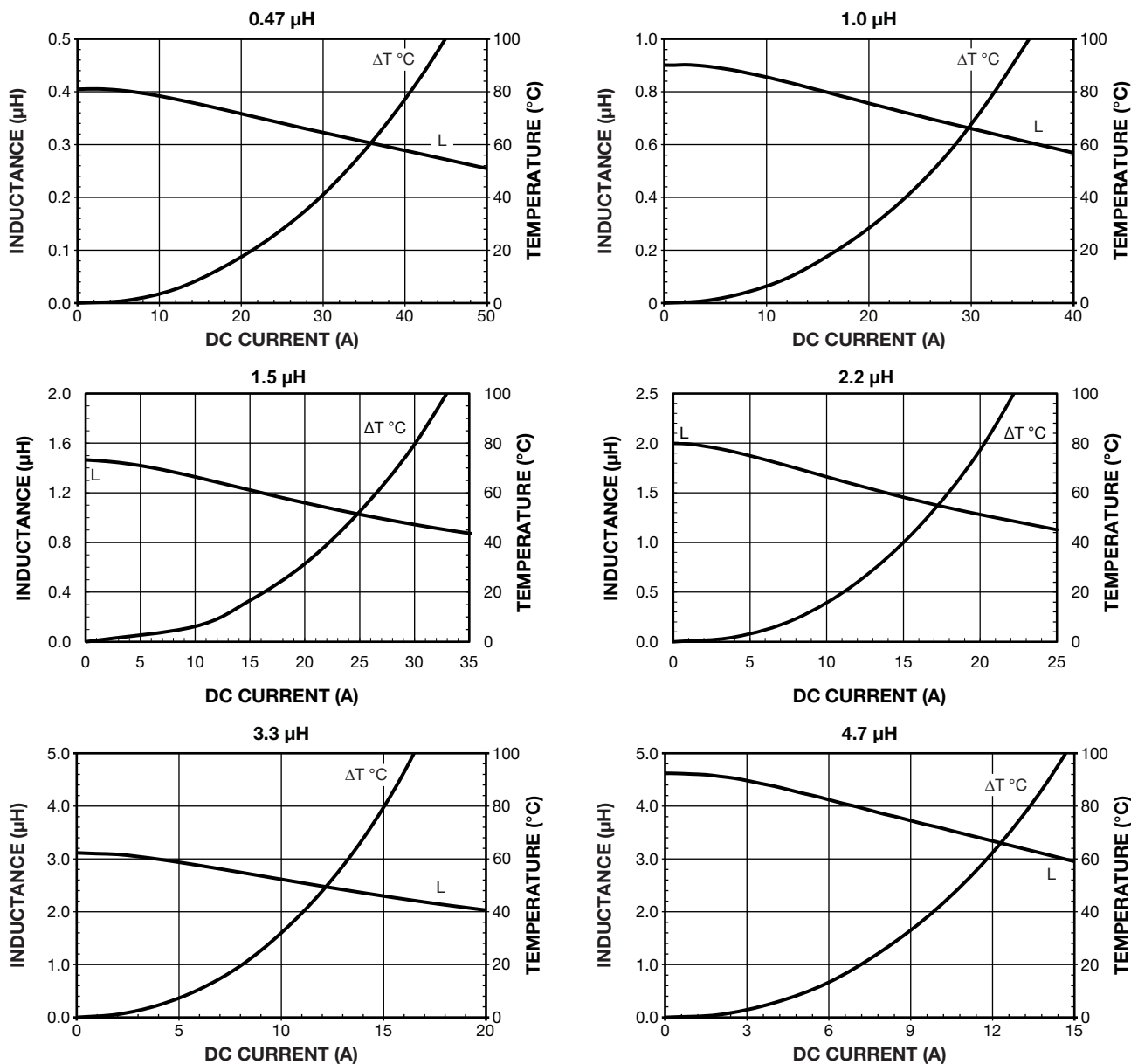
APPLICATIONS

- 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 blower / HID lighting
- LED drivers



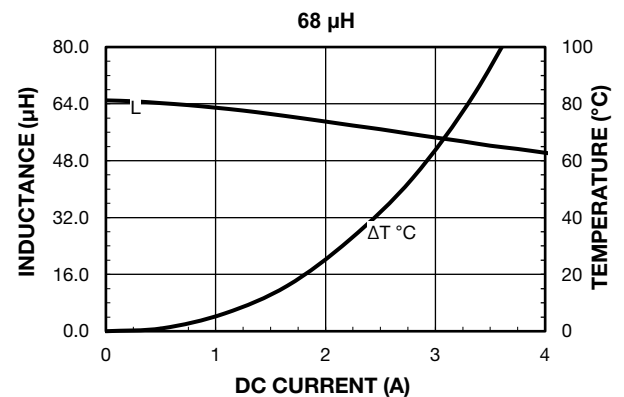
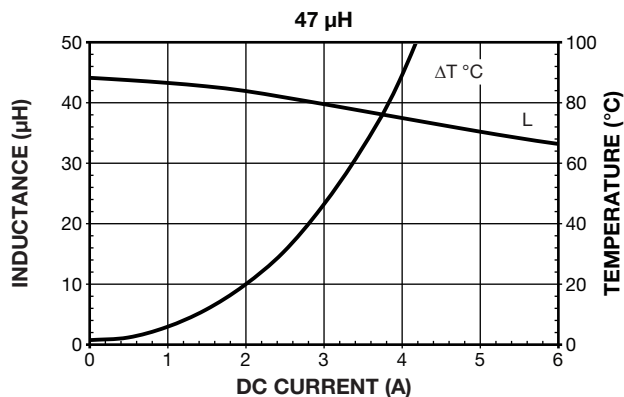
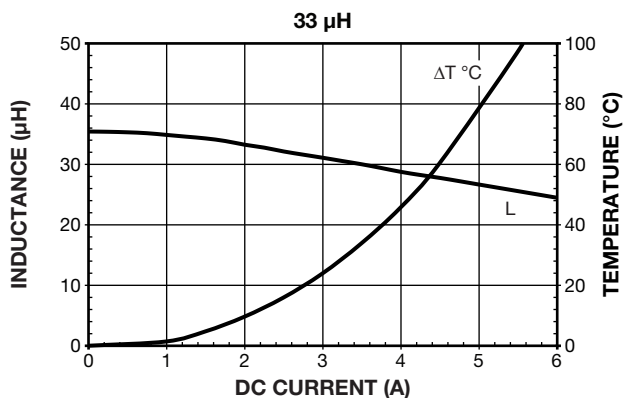
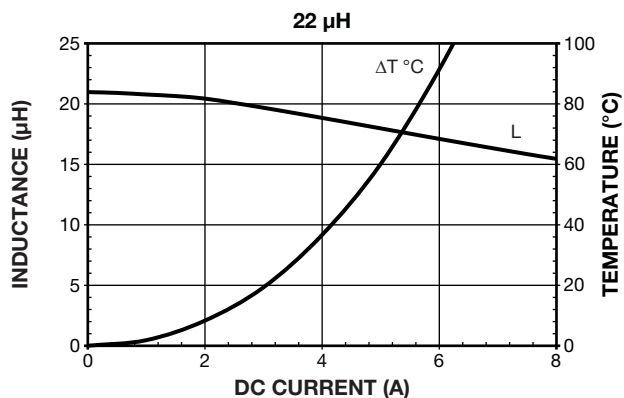
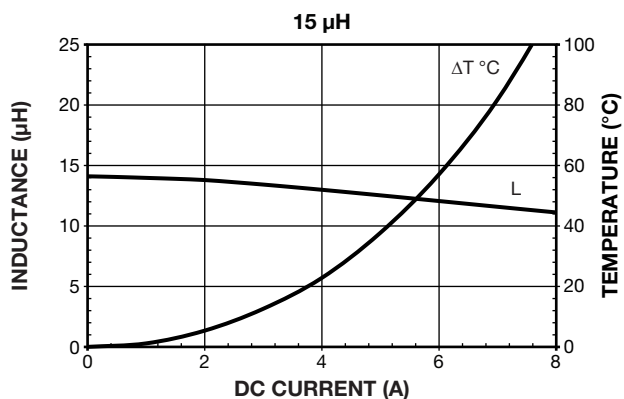
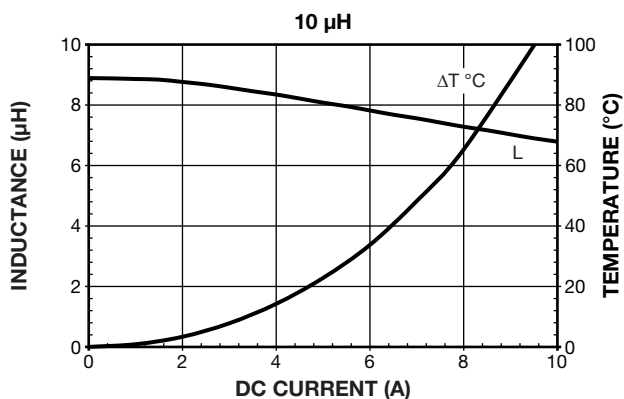
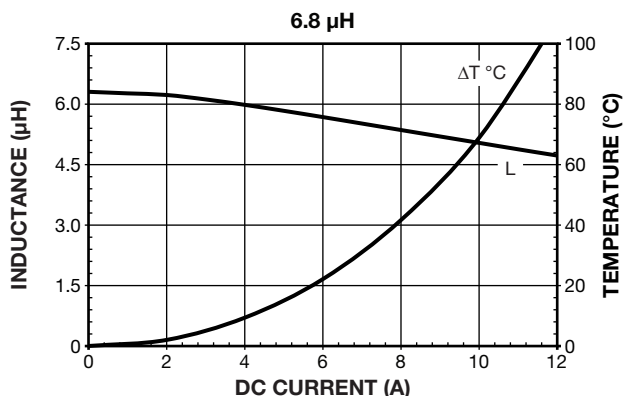
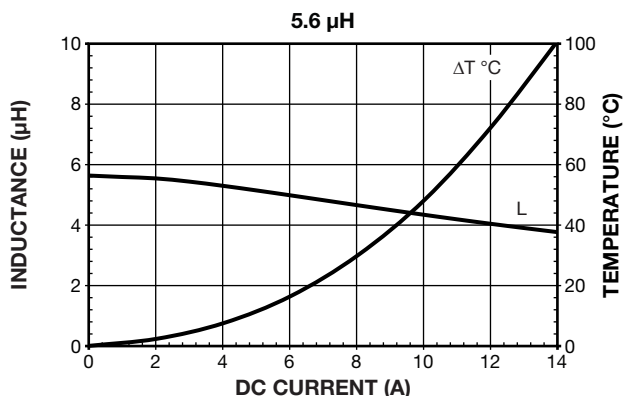
DIMENSIONS in inches [millimeters]

Notes

- Dot indicate the coil pin
- Coplanarity of 4 terminals: 0.004" [0.10]

PERFORMANCE GRAPHS


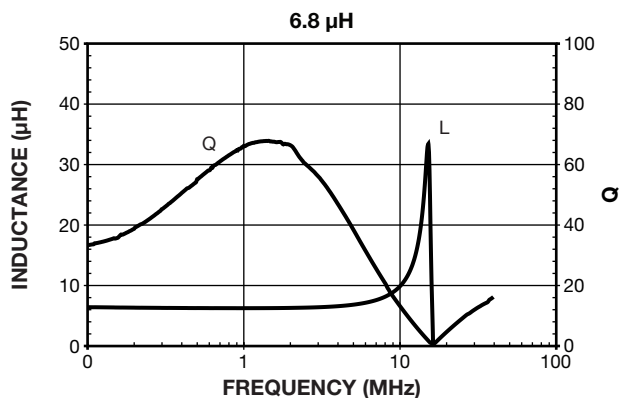
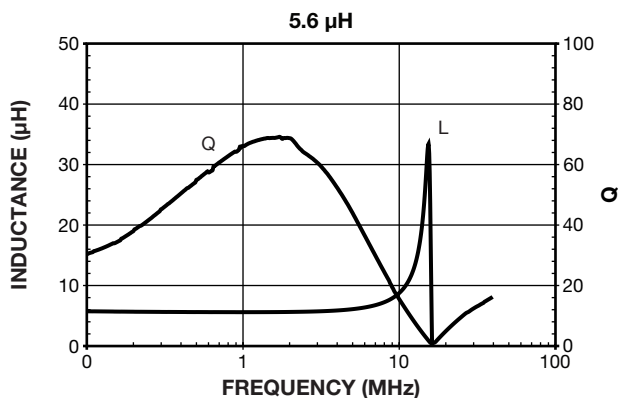
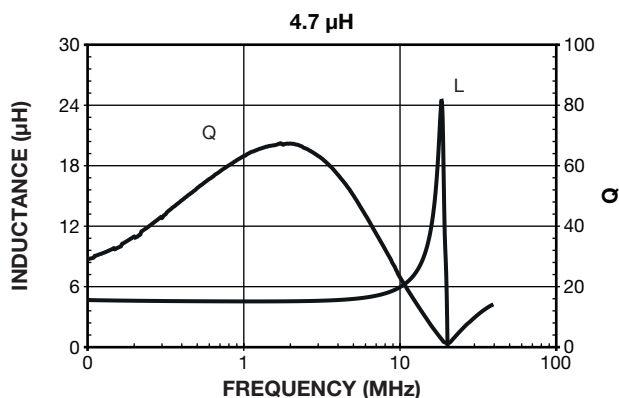
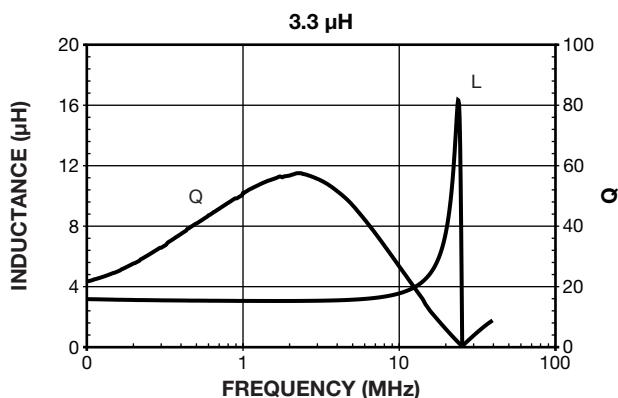
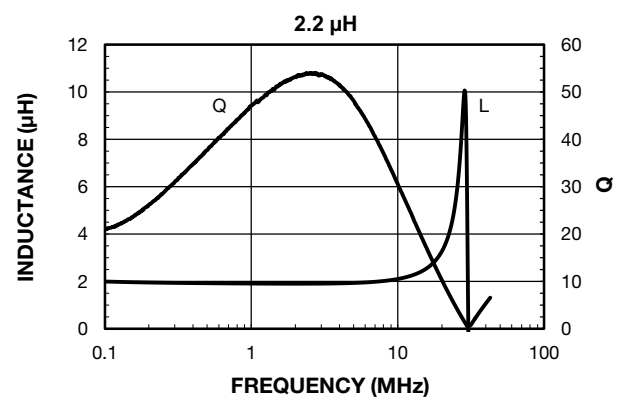
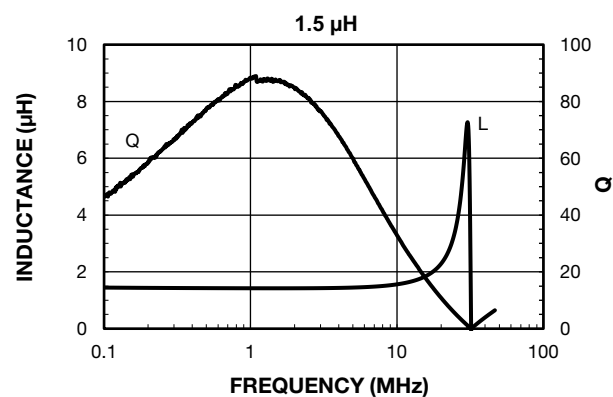
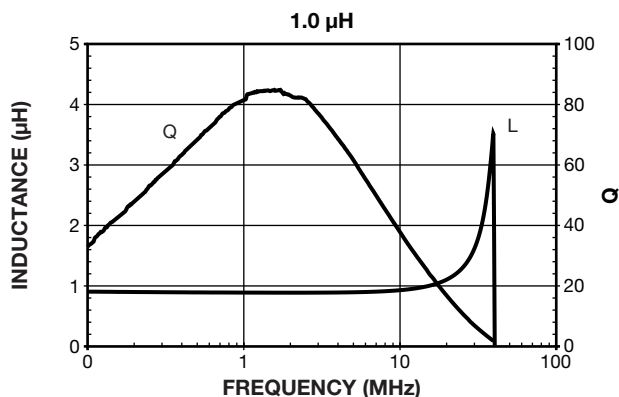
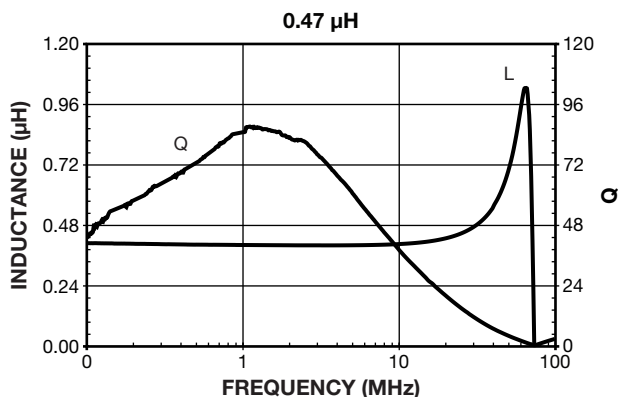


PERFORMANCE GRAPHS



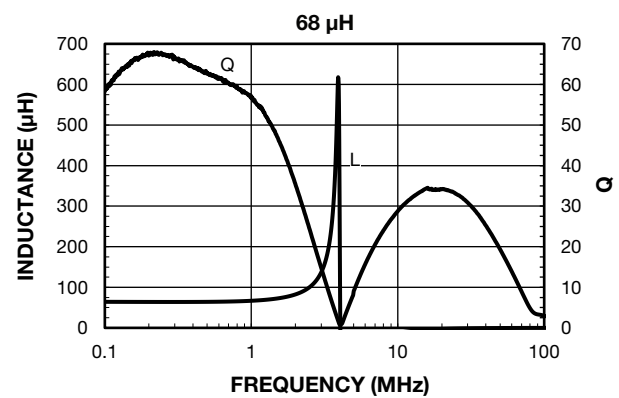
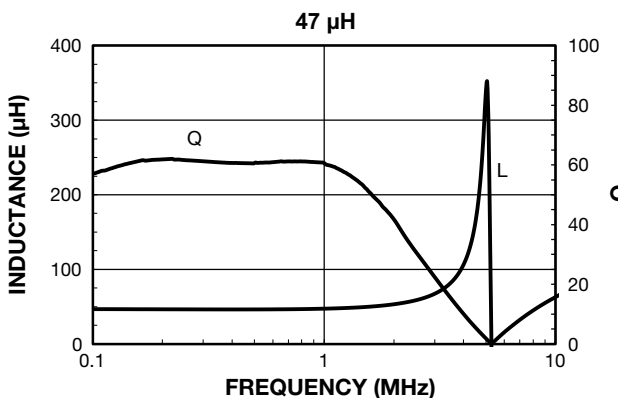
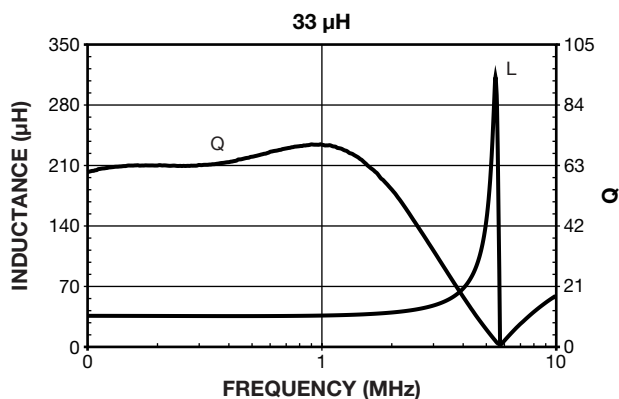
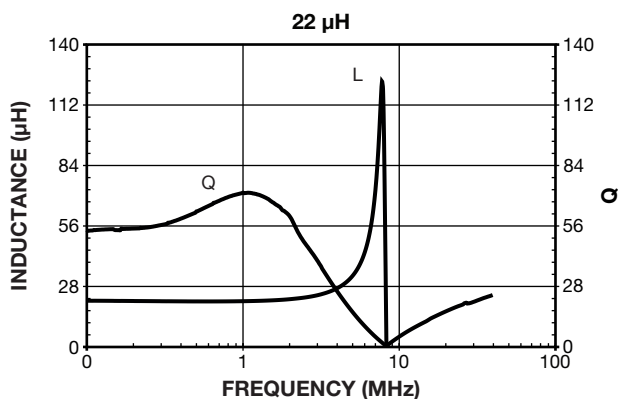
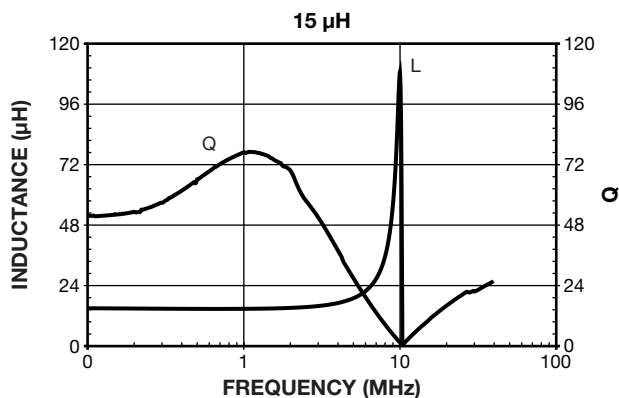
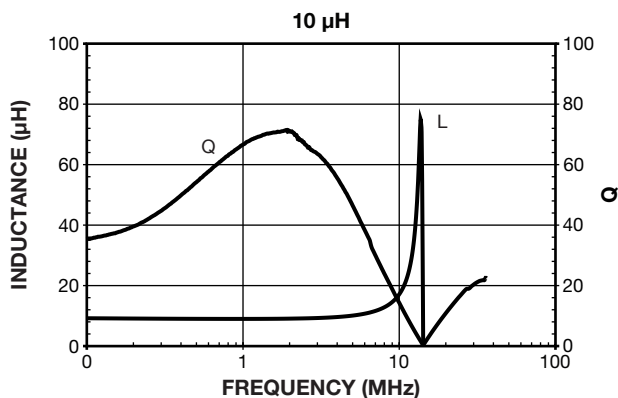


PERFORMANCE GRAPHS: INDUCTANCE AND Q VS. FREQUENCY





PERFORMANCE GRAPHS: INDUCTANCE AND Q VS. FREQUENCY





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