

## High Current Through-Hole Inductor, High Temperature Series



### FEATURES

- Shielded construction
- Excellent DC/DC energy storage up to 1 MHz to 2 MHz
- Filter inductor applications up to SRF (see "Standard Electrical Specifications" table)
- Handles high transient current spikes without saturation
- Ultra low buzz noise, due to composite construction
- High temperature, up to 155 °C
- AEC-Q200 qualified
- PATENT(S): [www.vishay.com/patents](http://www.vishay.com/patents)
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)

AUTOMOTIVE  
GRADE

**RoHS**  
COMPLIANT

**HALOGEN**  
**FREE**
**GREEN**  
(5-2008)

### STANDARD ELECTRICAL SPECIFICATIONS

$L_0$ INDUCTANCE $\pm 20\%$ AT 100 kHz, 0.25 V, 0 A ( $\mu\text{H}$ )	DCR TYP. 25 °C (m $\Omega$ )	DCR MAX. 25 °C (m $\Omega$ )	HEAT RATING CURRENT DC TYP. (A) <sup>(1)</sup>	SATURATION CURRENT DC TYP. (A) <sup>(2)</sup>	SRF TYP. (MHz)
0.47	0.26	0.30	125	112	57.25
1.0	0.43	0.50	90	65	29.30
2.2	0.70	0.77	72	64	17.25
3.3	1.40	1.50	57	62	15.8
4.7	1.70	1.82	50	52	11.36
6.8	1.84	1.97	44.5	44	9.35
8.2	2.82	3.00	34.5	32	9.24
10	3.20	3.64	33	30	7.76
15	4.45	4.76	26	20	6.17
22	6.39	6.83	21.0	23	5.61
33	10.6	11.3	15.9	18	4.20
47	13.2	14.6	14.0	16.2	2.99
68	25.6	27.4	10.5	9.6	2.95
100	30.7	32.2	8.8	6.0	2.04

### 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
- (1) DC current (A) that will cause an approximate  $\Delta T$  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 blowers / HID lighting
- LED drivers

### DIMENSIONS in inches

VALUE	A $\pm 0.010$ ( $\pm 0.254$ )	B $\pm 0.010$ ( $\pm 0.254$ )	C $\pm 0.010$ ( $\pm 0.254$ )	D $\pm 0.010$ ( $\pm 0.254$ )
0.47 $\mu\text{H}$	0.579 (14.707)	0.273 (6.934)	0.273 (6.934)	0.130 (3.302)
1.0 $\mu\text{H}$	0.569 (14.453)	0.329 (8.357)	0.225 (5.715)	0.100 (2.540)
2.2 $\mu\text{H}$	0.679 (17.247)	0.273 (6.934)	0.169 (4.293)	0.100 (2.540)
3.3 $\mu\text{H}$	0.660 (16.764)	0.274 (6.960)	0.189 (4.801)	0.079 (2.007)
4.7 $\mu\text{H}$	0.660 (16.764)	0.274 (6.960)	0.189 (4.801)	0.079 (2.007)
6.8 $\mu\text{H}$	0.720 (18.288)	0.244 (6.198)	0.159 (4.039)	0.079 (2.007)
8.2 $\mu\text{H}$	0.702 (17.831)	0.248 (6.299)	0.172 (4.369)	0.071 (1.803)
10 $\mu\text{H}$	0.702 (17.831)	0.248 (6.299)	0.172 (4.369)	0.071 (1.803)
15 $\mu\text{H}$	0.649 (16.485)	0.351 (8.915)	0.124 (3.150)	0.071 (1.803)
22 $\mu\text{H}$	0.693 (17.602)	0.318 (8.077)	0.113 (2.870)	0.063 (1.600)
33 $\mu\text{H}$	0.702 (17.831)	0.292 (7.417)	0.128 (3.251)	0.050 (1.270)
47 $\mu\text{H}$	0.702 (17.831)	0.292 (7.417)	0.128 (3.251)	0.050 (1.270)
68 $\mu\text{H}$	0.653 (16.586)	0.357 (9.068)	0.113 (2.87)	0.044 (1.118)
100 $\mu\text{H}$	0.653 (16.586)	0.357 (9.068)	0.113 (2.87)	0.044 (1.118)

### DESCRIPTION

IHTH-1125KZ-5A	4.7 $\mu\text{H}$	$\pm 20\%$
MODEL	INDUCTANCE VALUE	INDUCTANCE TOLERANCE

### GLOBAL PART NUMBER

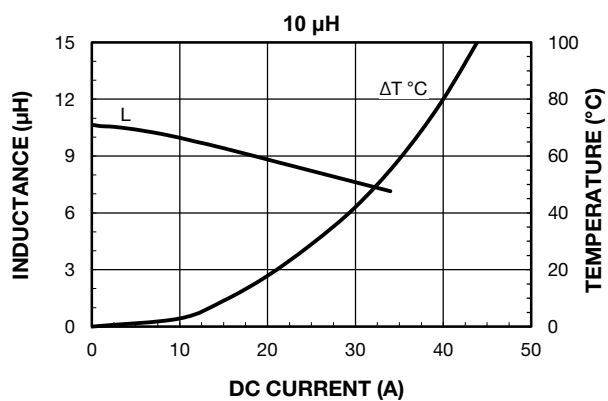
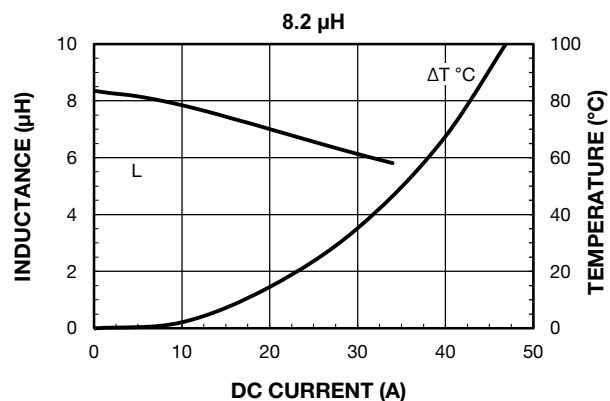
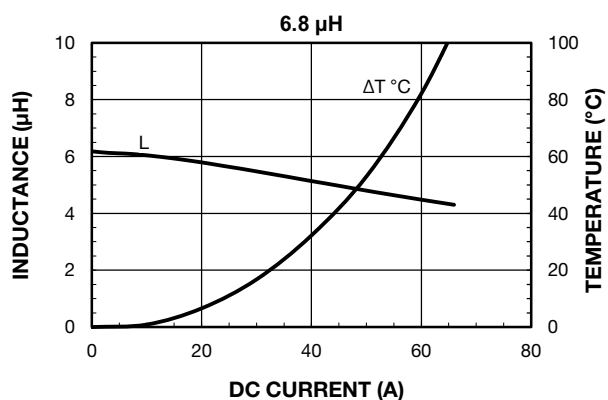
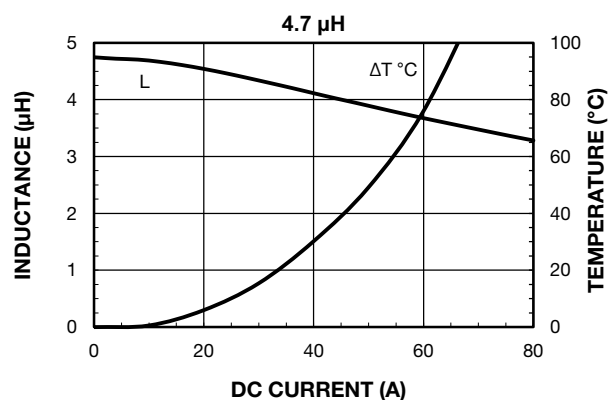
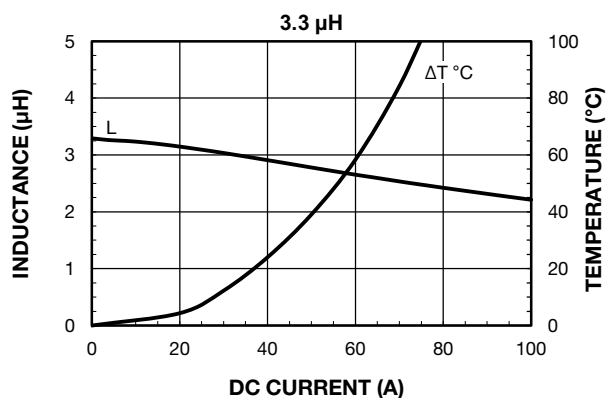
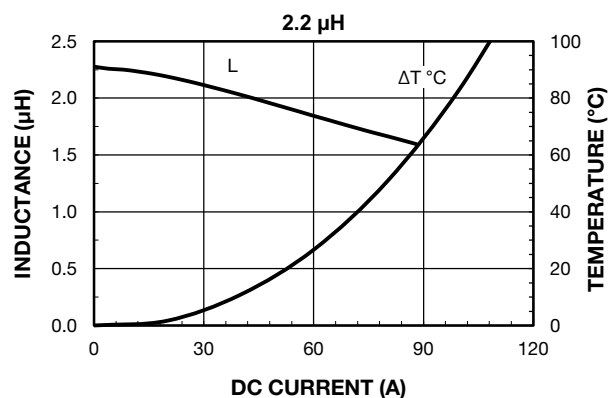
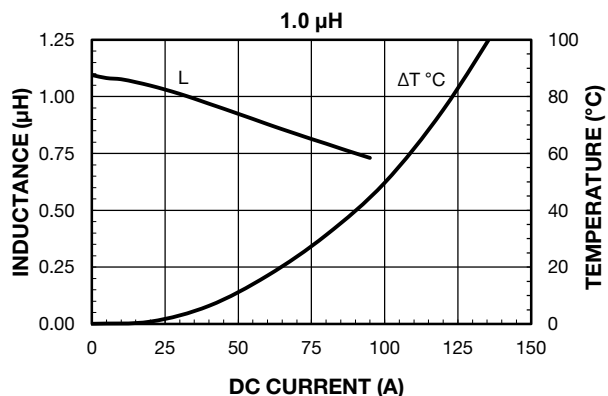
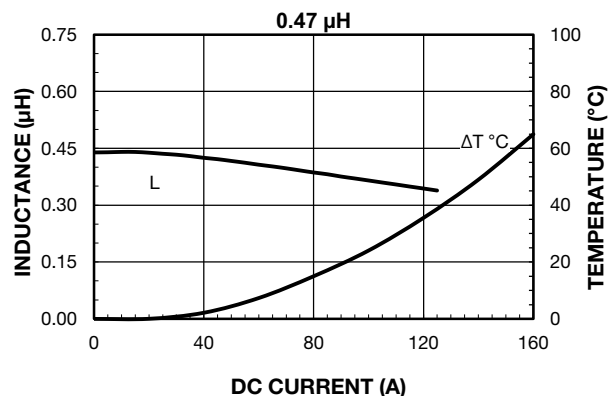
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I	H	T	H	1	1	2	5	K	Z	E	B	4	R	7	M	5	A
MODEL				SIZE						PACKAGE CODE		INDUCTANCE VALUE			INDUCT. TOL.	SERIES	

PATENT(S): [www.vishay.com/patents](http://www.vishay.com/patents)

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

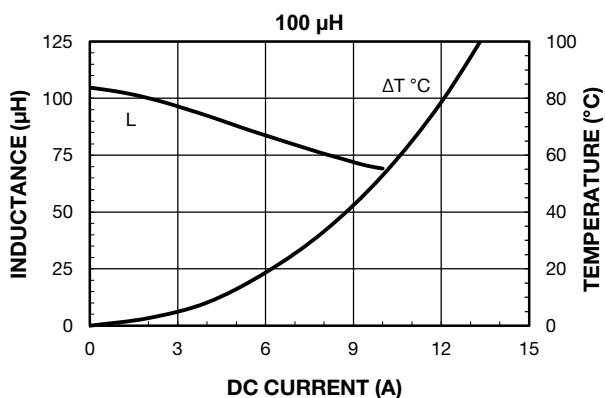
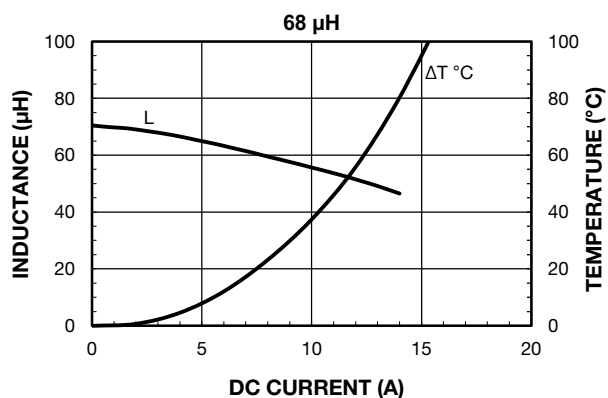
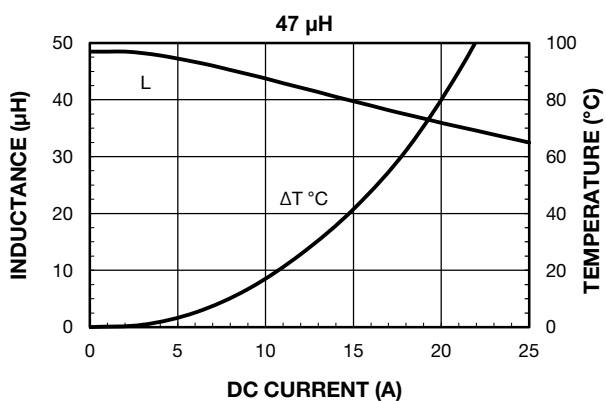
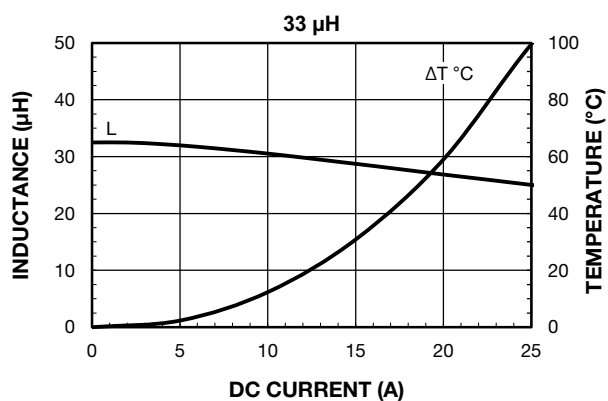
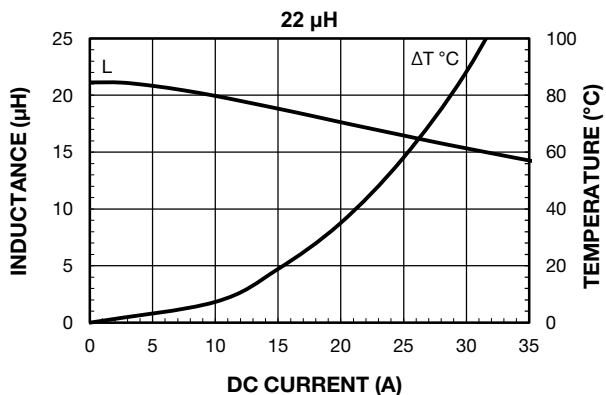
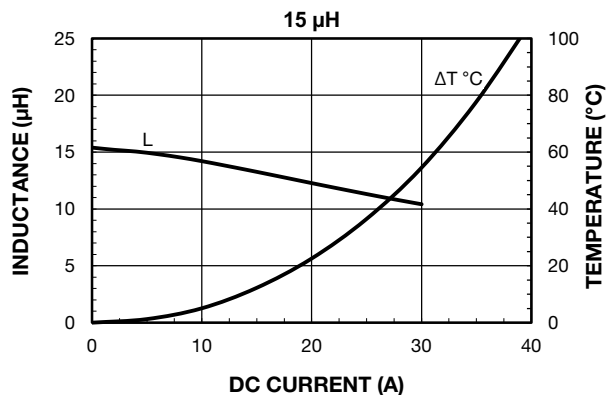


PERFORMANCE GRAPHS



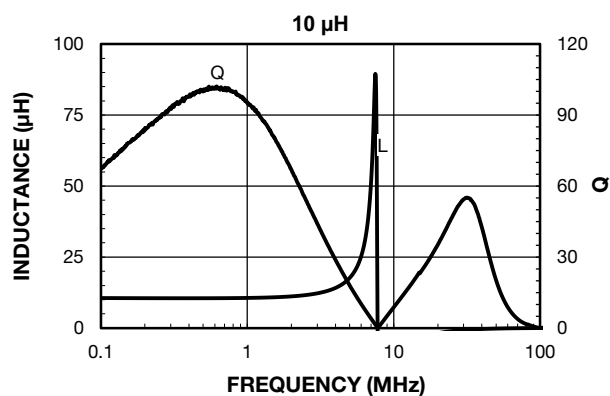
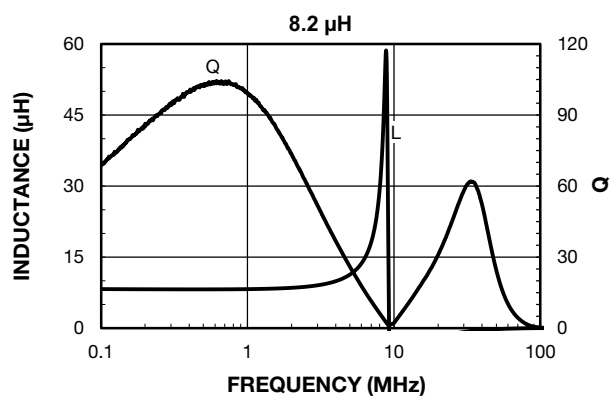
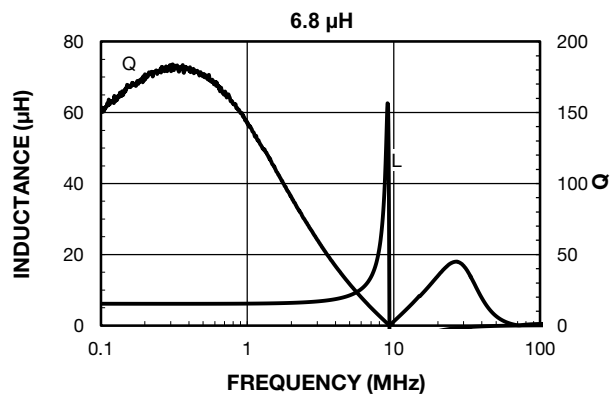
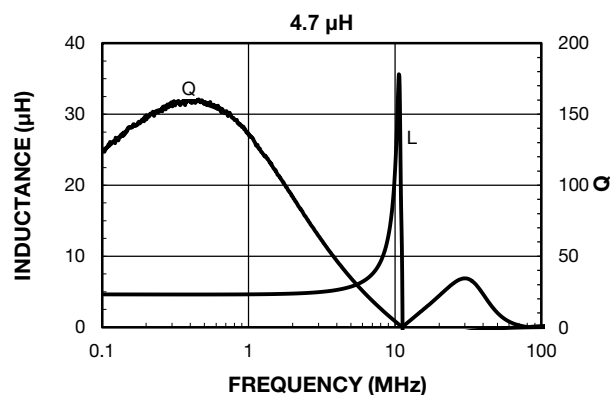
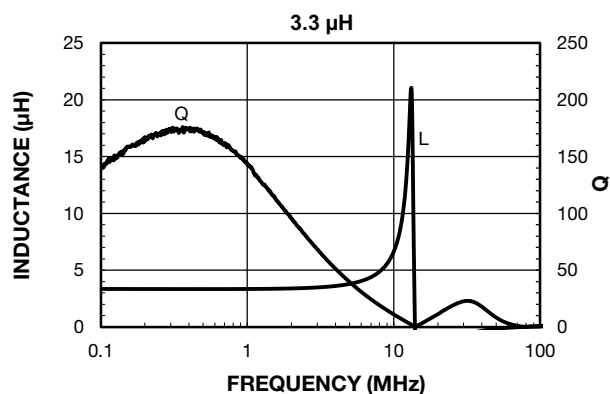
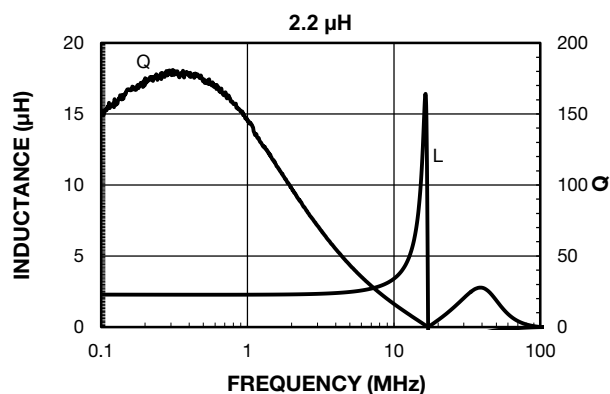
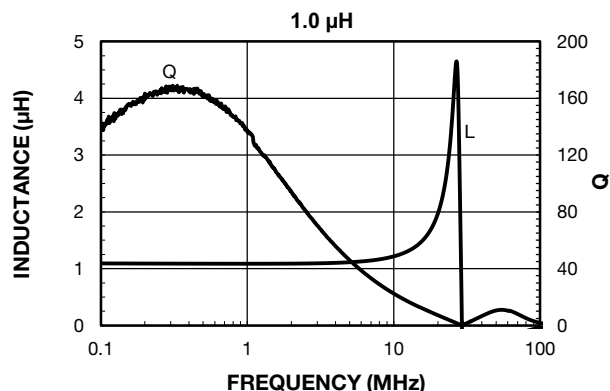
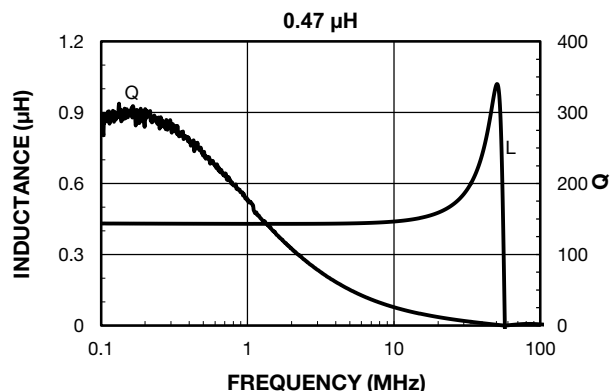


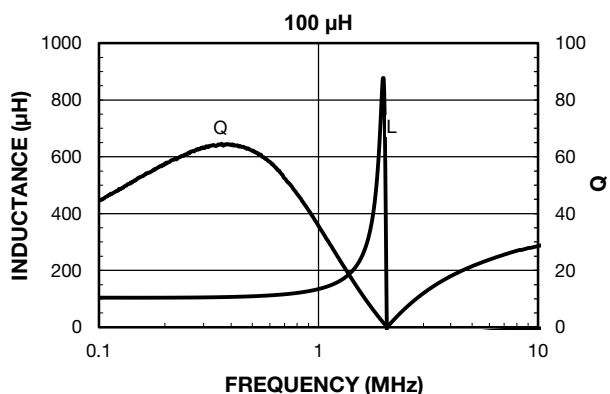
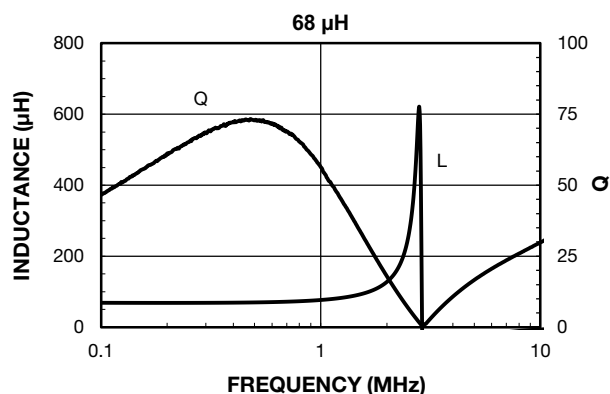
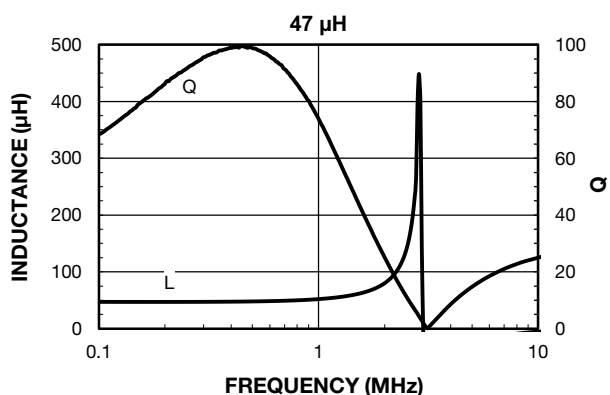
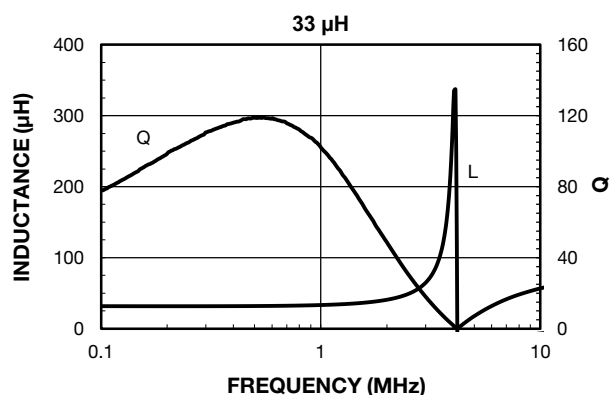
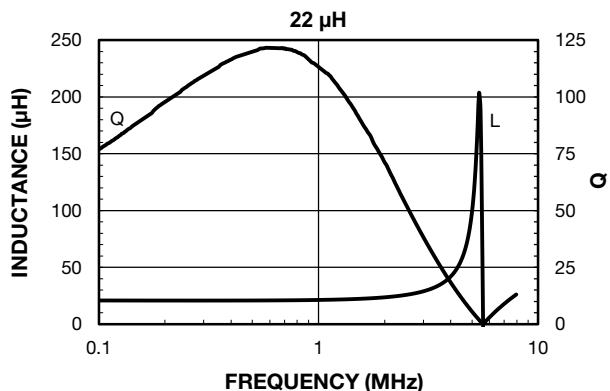
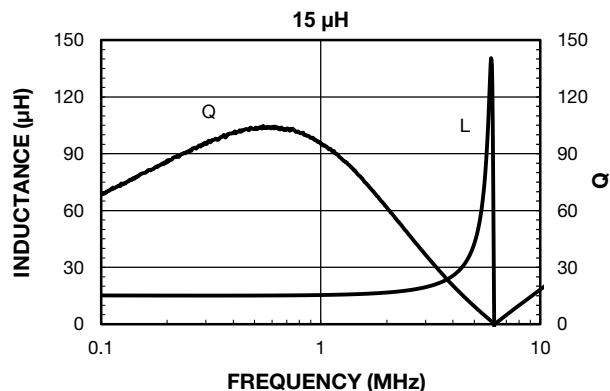
PERFORMANCE GRAPHS





PERFORMANCE GRAPHS: INDUCTANCE AND Q VS. FREQUENCY



**PERFORMANCE GRAPHS: INDUCTANCE AND Q VS. FREQUENCY**


**INTERACTIVE 3D MODEL (0.47  $\mu$ H)**

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**INTERACTIVE 3D MODEL (1.0  $\mu$ H)**

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**INTERACTIVE 3D MODEL (2.2  $\mu$ H)**

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**INTERACTIVE 3D MODEL (3.3  $\mu$ H)**

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**INTERACTIVE 3D MODEL (4.7  $\mu$ H)**

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**INTERACTIVE 3D MODEL (6.8  $\mu$ H)**

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**INTERACTIVE 3D MODEL (8.2  $\mu$ H)**

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**INTERACTIVE 3D MODEL (10  $\mu$ H)**

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**INTERACTIVE 3D MODEL (15  $\mu$ H)**

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**INTERACTIVE 3D MODEL (22  $\mu$ H)**

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**INTERACTIVE 3D MODEL (33  $\mu$ H)**

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**INTERACTIVE 3D MODEL (47  $\mu$ H)**

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**INTERACTIVE 3D MODEL (68  $\mu$ H)**

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**INTERACTIVE 3D MODEL (100  $\mu$ H)**

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