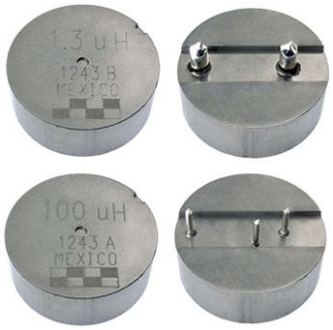
High Current Through Hole Inductor, High Temperature Series



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
- PATENT(S): www.vishay.com/patents
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

Pb-free
RoHS COMPLIANT
HALOGEN FREE
GREEN (5-2008)

APPLICATIONS

- PDA / notebook / desktop / server applications
- High current POL converters
- Low profile, high current power supplies
- Battery powered devices
- DC/DC converters in distributed power systems
- DC/DC converter for Field Programmable Gate Array (FPGA)

STANDARD ELECTRICAL SPECIFICATIONS

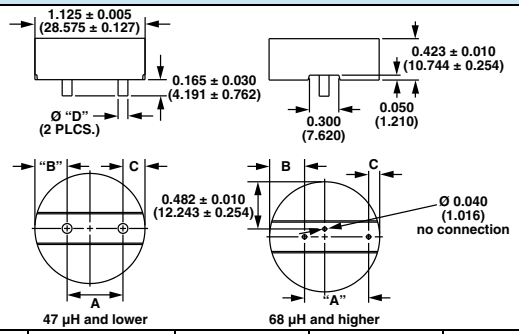
L_0 INDUCTANCE ± 20 % AT 100 kHz, 0.25 V, 0 A (µH)	DCR TYP. 25 °C (mΩ)	DCR MAX. 25 °C (mΩ)	HEAT RATING CURRENT DC TYP. (A) (1)	SATURATION CURRENT DC TYP. (A) (2)	SRF TYP. (MHz)
0.47	0.26	0.30	125	112	57.25
1.0	0.43	0.50	90	65	29.30
2.2	0.70	0.77	72	64	17.25
3.3	1.40	1.50	57	62	15.8
4.7	1.70	1.82	50	52	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 ΔT of 40 °C
(2) DC current (A) that will cause L_0 to drop approximately 20 %

DIMENSIONS in inches



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

DESCRIPTION

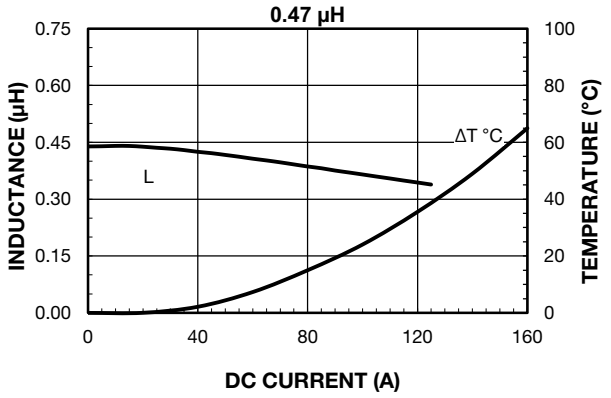
IHTH-1125KZ-51	4.7 µH	± 20 %
MODEL	INDUCTANCE VALUE	INDUCTANCE TOLERANCE

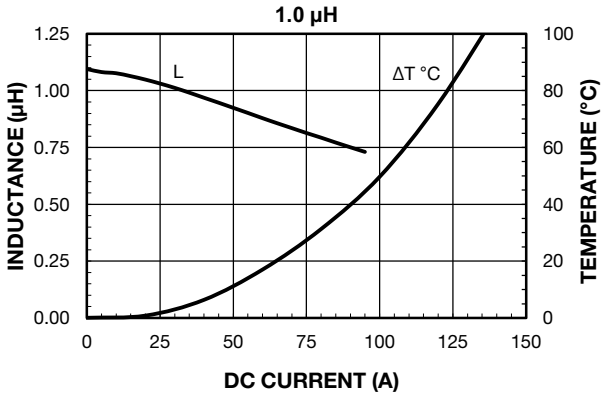
GLOBAL PART NUMBER

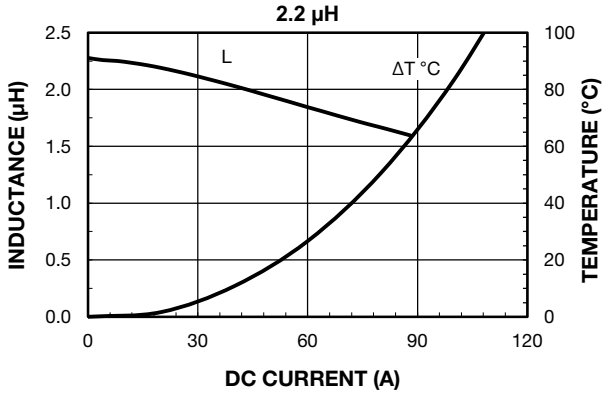
I	H	T	H	1	1	2	5	K	Z	E	B	4	R	7	M	5	1
MODEL				SIZE						PACKAGE CODE		INDUCTANCE VALUE			INDUCT. TOL.	SERIES	

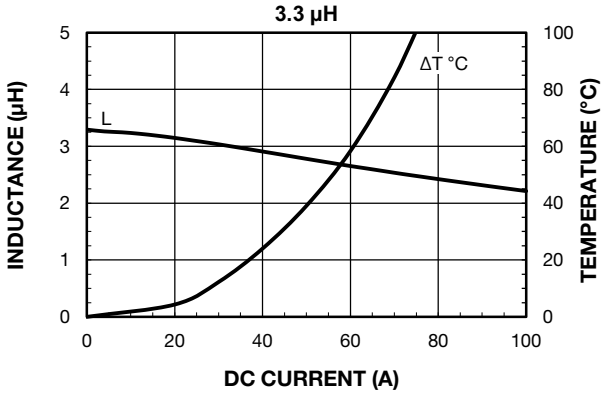
PATENT(S): www.vishay.com/patents
This Vishay product is protected by one or more United States and international patents.

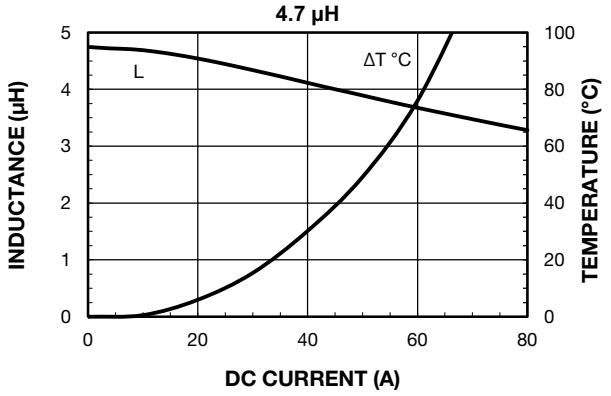
PERFORMANCE GRAPHS

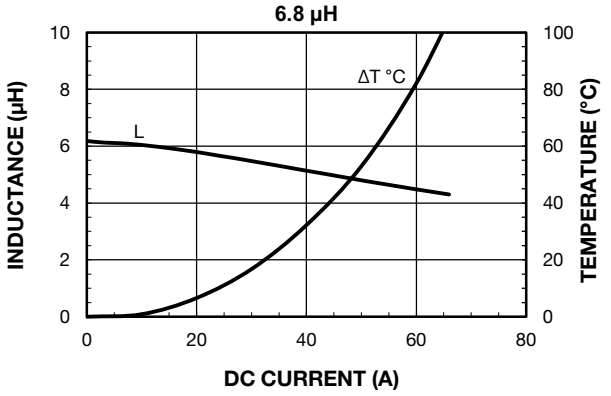


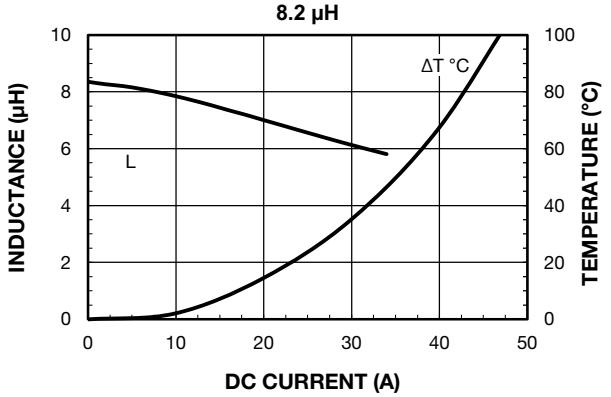


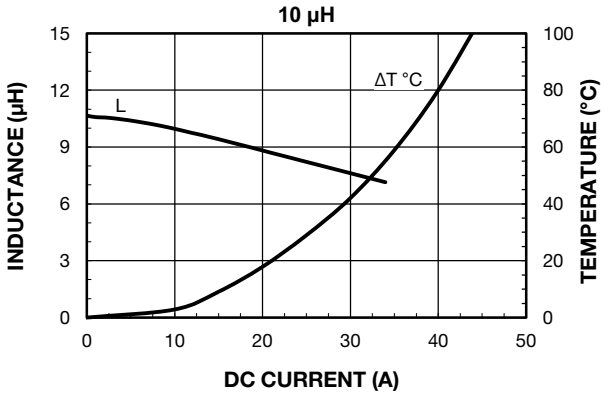












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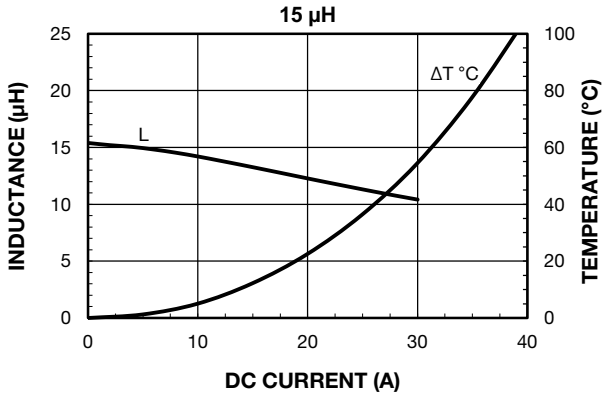
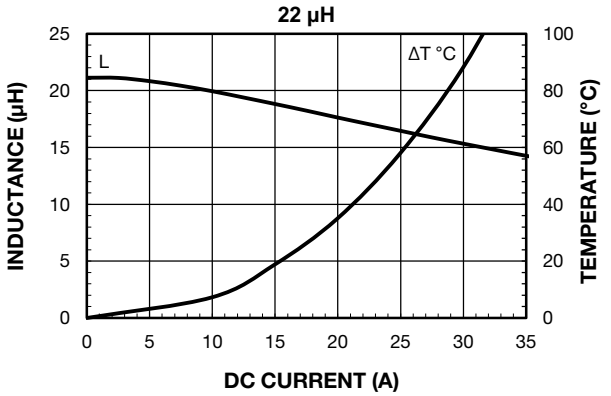
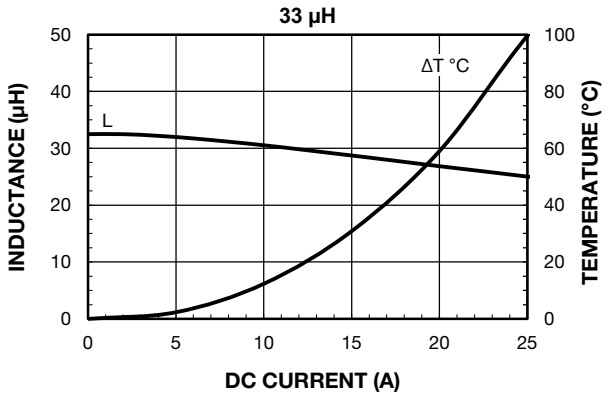
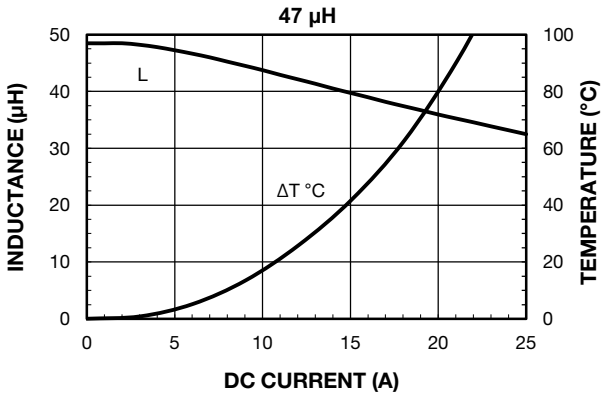
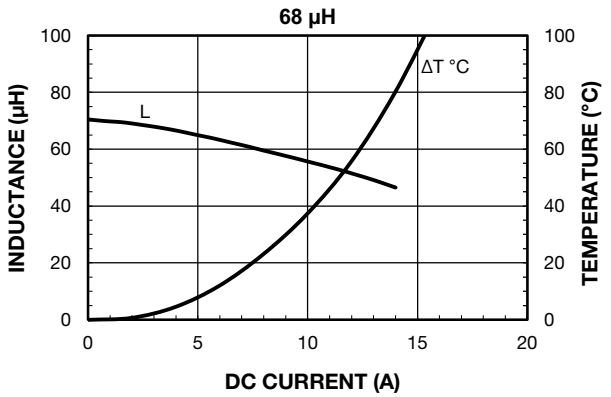
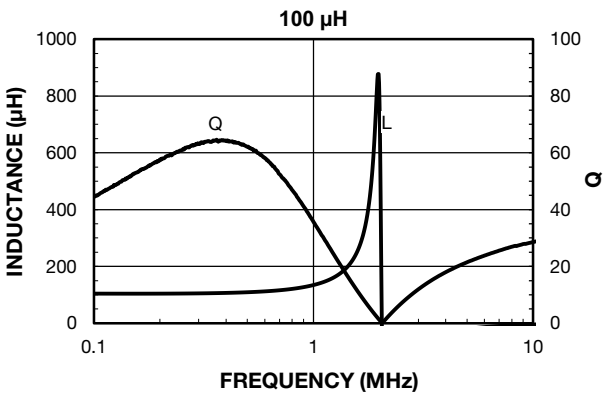




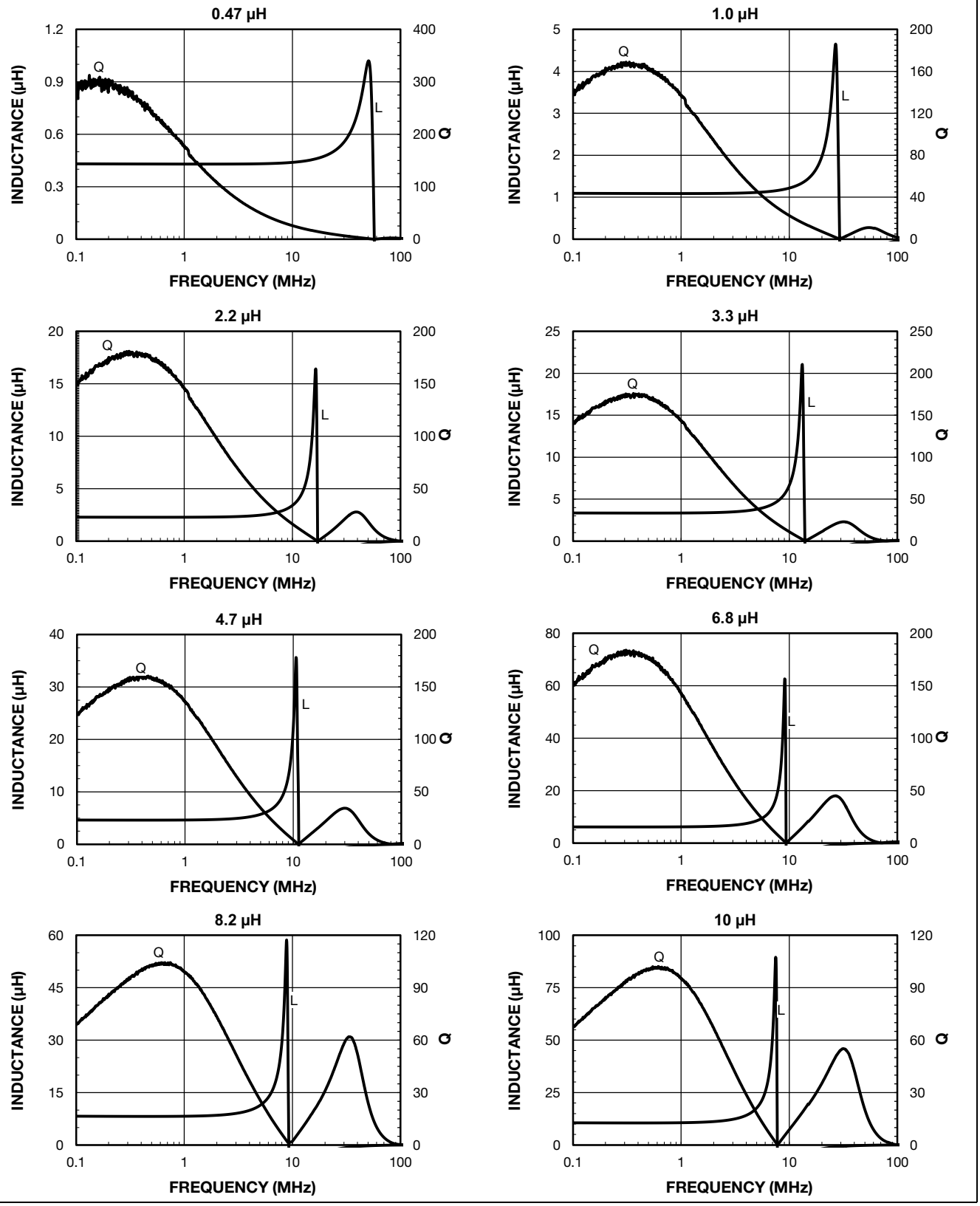








PERFORMANCE GRAPHS: INDUCTANCE AND Q VS. FREQUENCY



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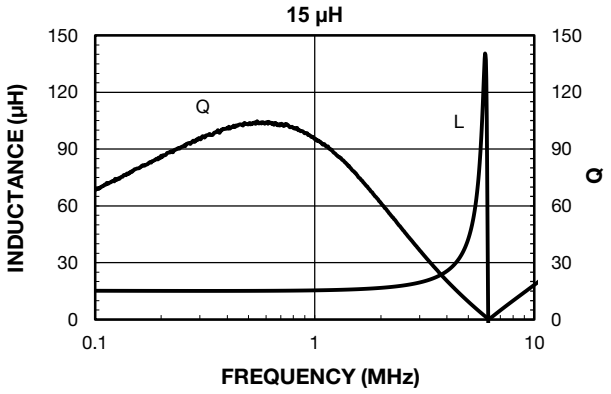

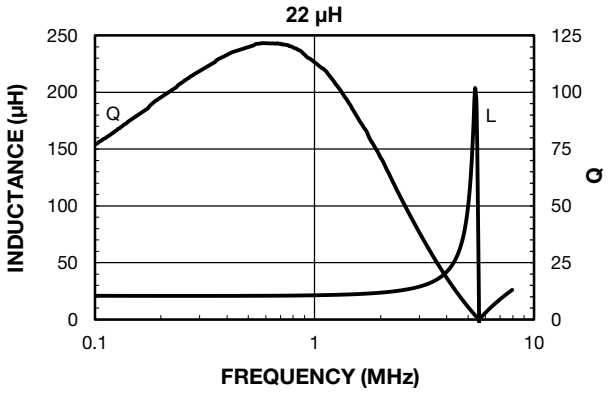

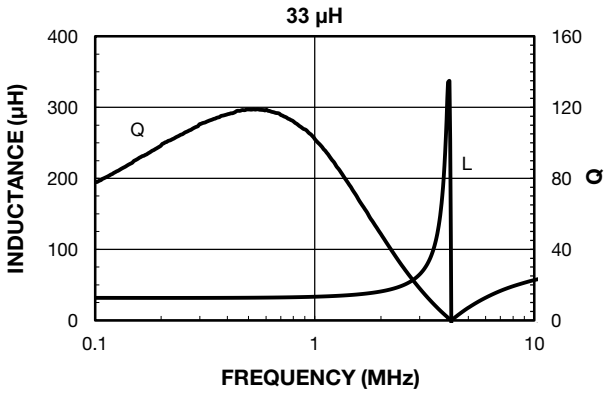

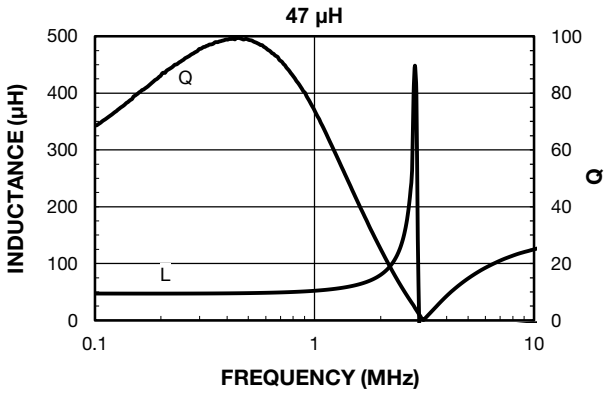

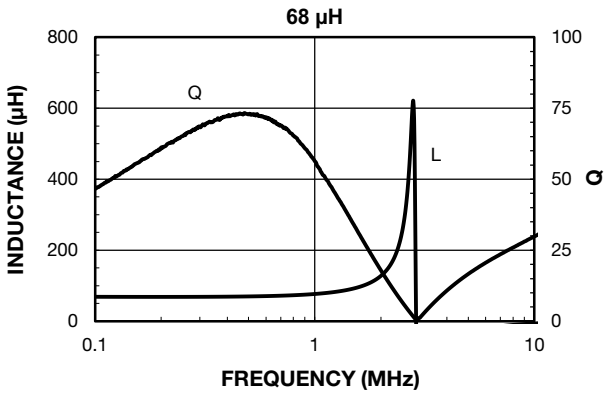

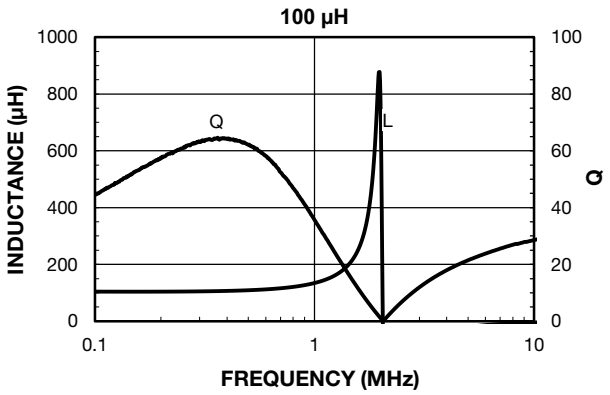

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