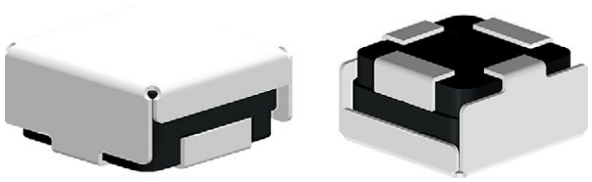
IHLE® High Current Inductor With E-Field Shield



LINKS TO ADDITIONAL RESOURCES

Design Tools

APPLICATIONS

- 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)
- Telecom infrastructure

FEATURES

AUTOMOTIVE GRADE

Pb-free

RoHS COMPLIANT

HALOGEN FREE GREEN (5-2008)

- High temperature, continuous operation up to 155 °C
- Patented shielded construction
- Excellent DC/DC energy storage up to 2 MHz
- Filter inductor applications up the SRF (see standard electrical specifications table)
- Integrated E-Field shield eliminates need for separate shielding
- Up to 20 dB E-Field reduction at 1 cm
  - Measured vertically from top center of device
- B-Field is contained by powdered iron encapsulation
- Low DCR/µH
- Handles high transient current spikes without saturation
- AEC-Q200 qualified
- IHLE design; PATENT(S): www.vishay.com/patents
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

STANDARD ELECTRICAL SPECIFICATIONS

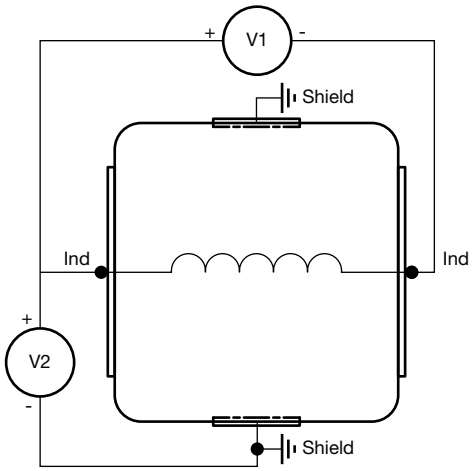
L_0 INDUCTANCE ± 20 % AT 100 kHz, 0.25 V, 0 A (µH)	DCR TYP. 25 °C (mΩ)	DCR MAX. 25 °C (mΩ)	HEAT RATING CURRENT DC TYP. (A) (1)	SATURATION CURRENT DC TYP. (A) (2)	SATURATION CURRENT DC TYP. (A) (3)	SRF TYP. (MHz)
0.22	3.95	4.23	18.0	8.6	13.0	164.5
0.33	4.90	5.34	15.8	8.1	11.8	127.0
0.47	6.02	6.44	14.6	6.5	9.4	88.0
0.68	9.10	9.74	11.3	6.6	9.5	78.0
1.0	11.50	12.10	9.8	7.2	10.3	66.0
1.5	18.00	19.80	7.9	6.6	9.4	49.2
2.2	24.70	26.00	6.5	5.0	7.1	39.8
3.3	44.00	47.00	5.2	4.3	6.1	33.4
4.7	72.80	78.30	4.1	3.7	6.0	23.8
6.8	104.0	111.0	3.2	2.0	2.9	18.8
10	132.0	138.0	2.8	1.9	2.7	15.9
15	195.0	208.0	2.4	1.8	2.6	14.1

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 %
(3) DC current (A) that will cause L_0 to drop approximately 30 %

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



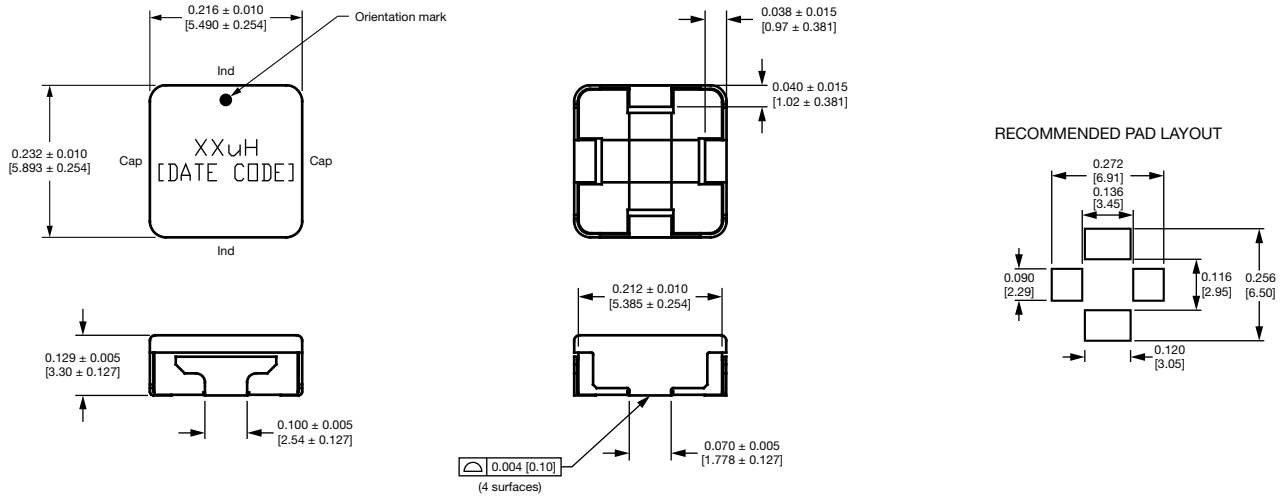
DESCRIPTION

IHLE-2020CD-51	**1.0 µH**	**± 20 %**	**ER**	**e3**
MODEL	INDUCTANCE VALUE	INDUCTANCE TOLERANCE	PACKAGE CODE	JEDEC® LEAD (Pb)-FREE STANDARD

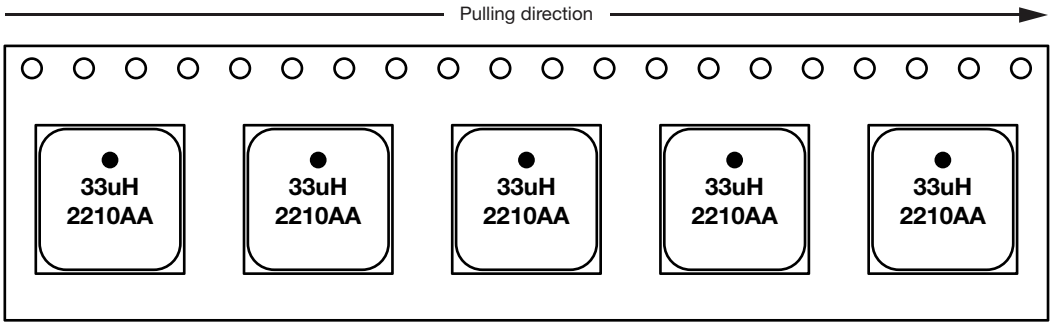
GLOBAL PART NUMBER

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

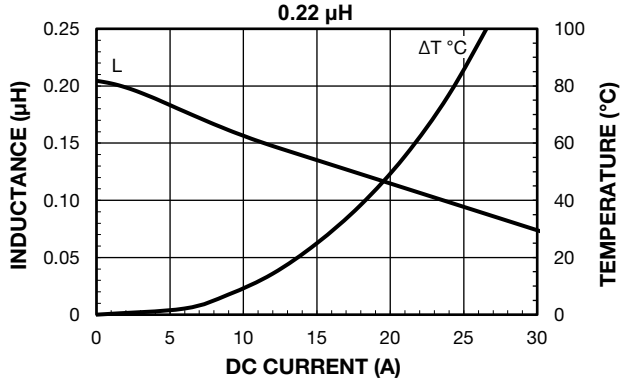
DIMENSIONS in inches [millimeters]

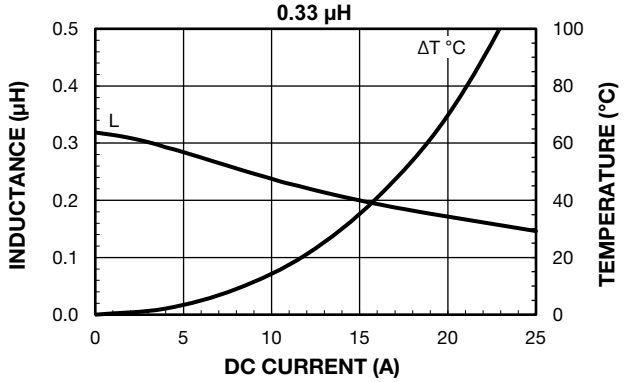


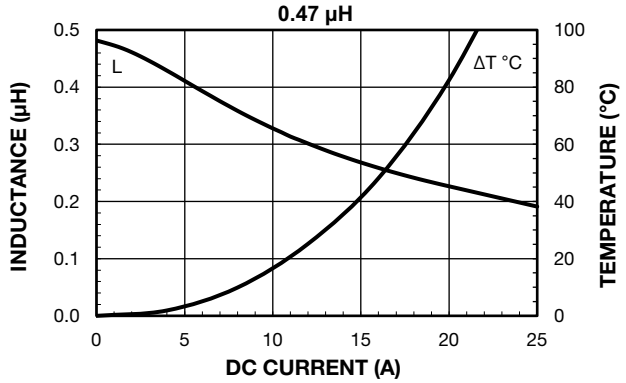
PART MARKING / POCKET TAPE ORIENTATION

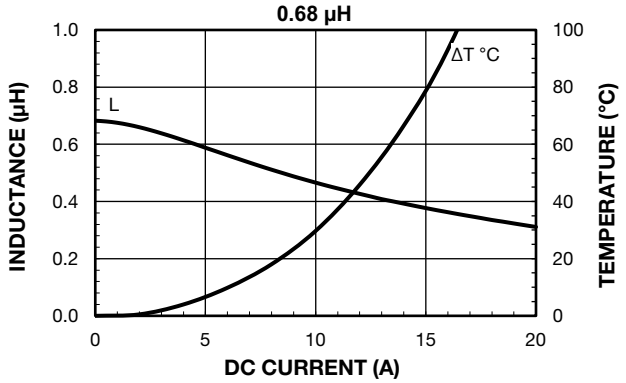


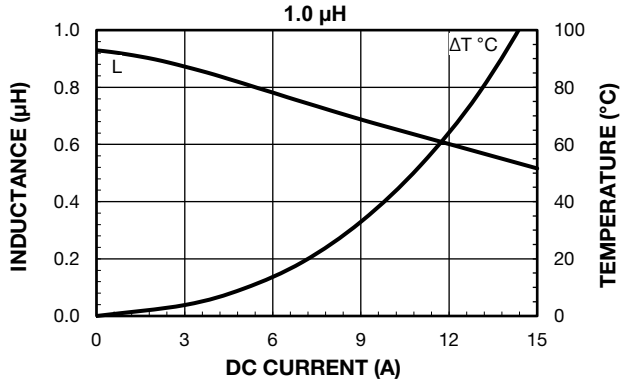
PERFORMANCE GRAPHS

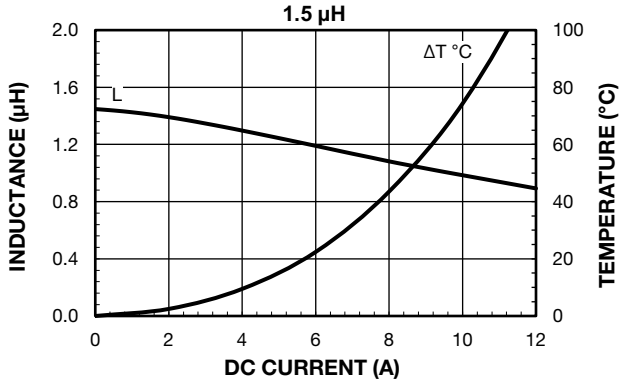












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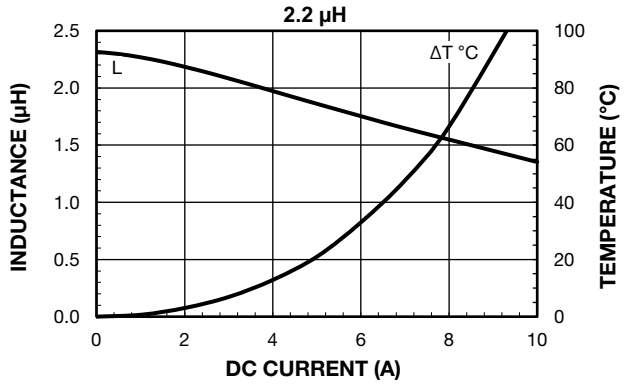
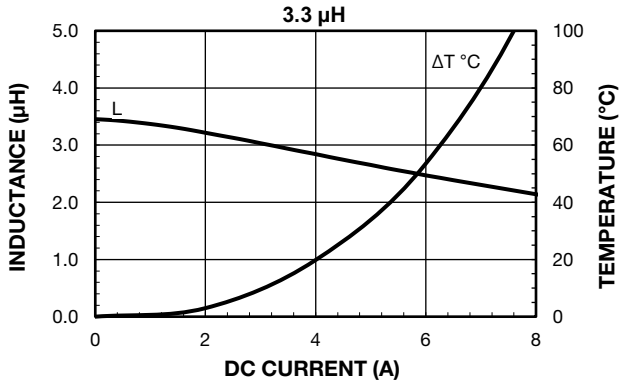
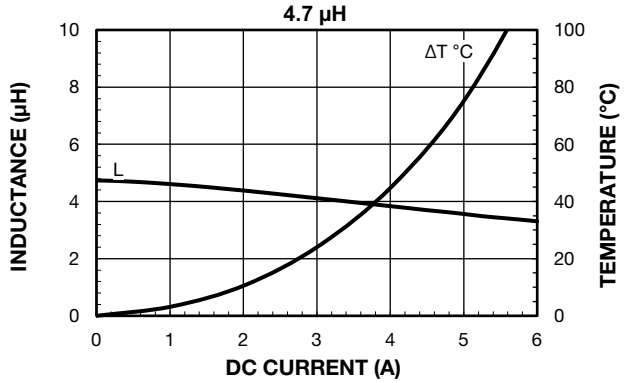
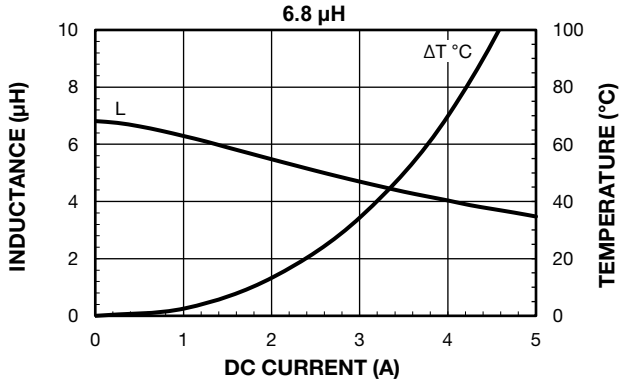
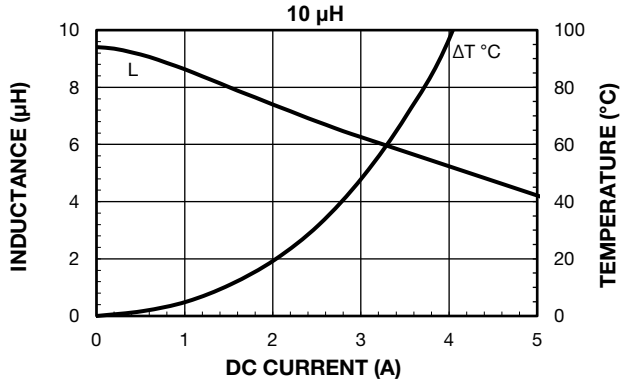
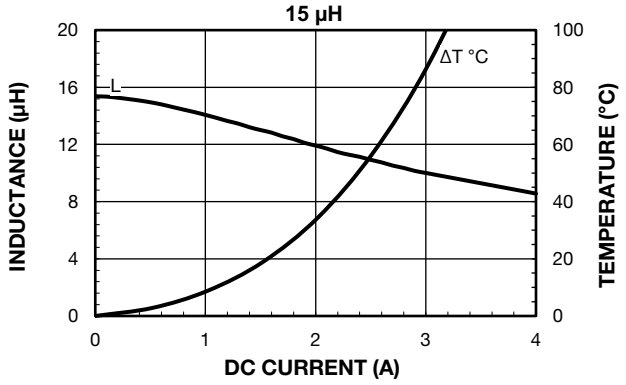




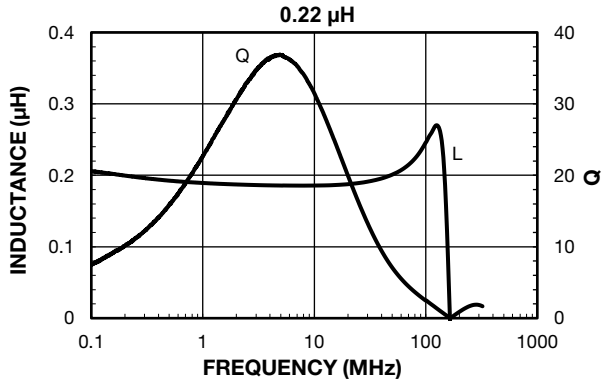


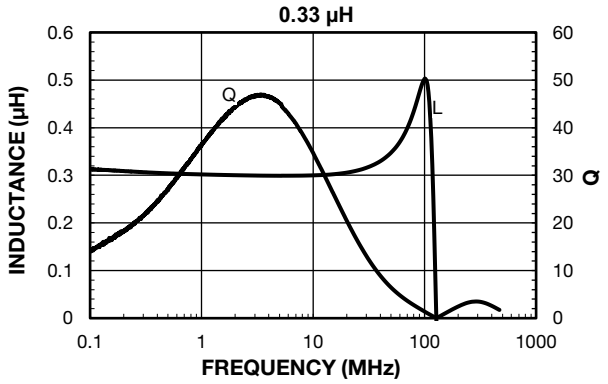


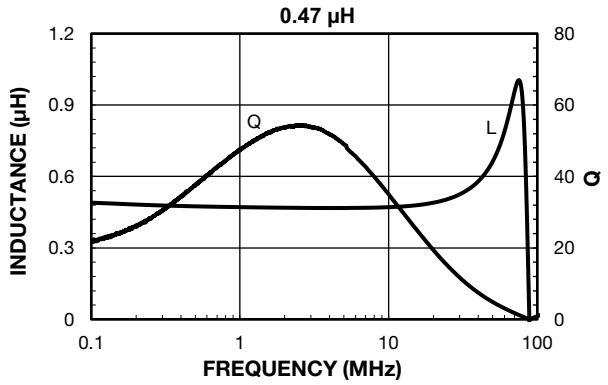


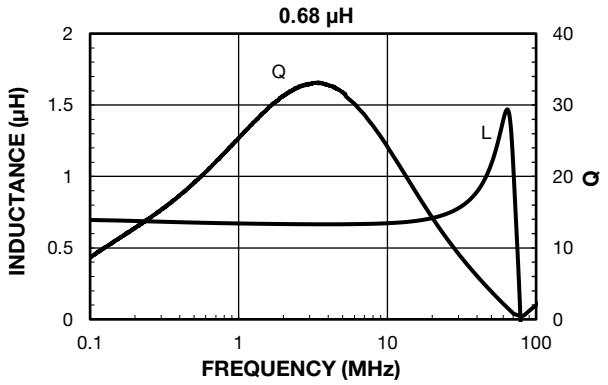


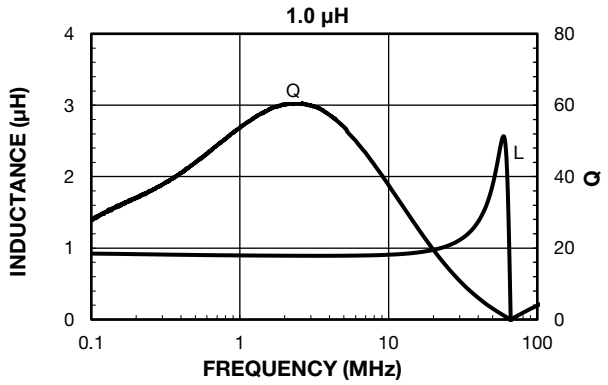
PERFORMANCE GRAPHS: INDUCTANCE AND Q VS. FREQUENCY

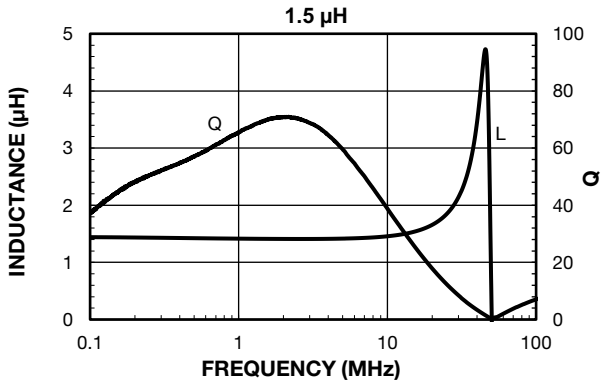












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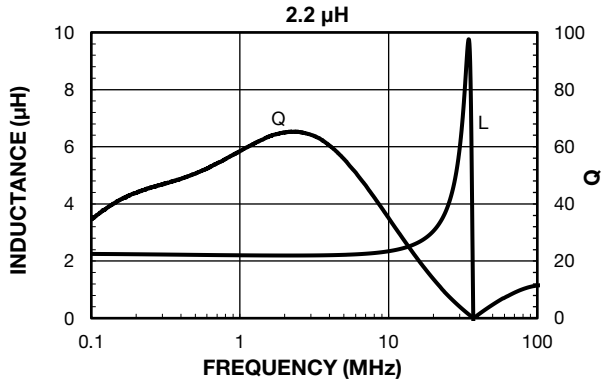

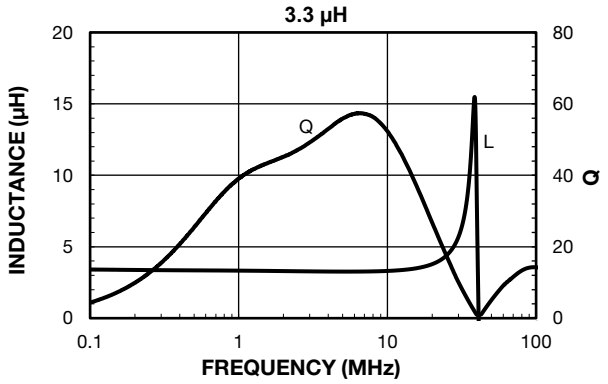

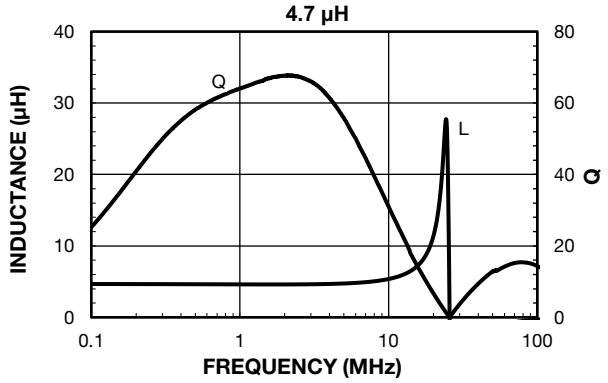

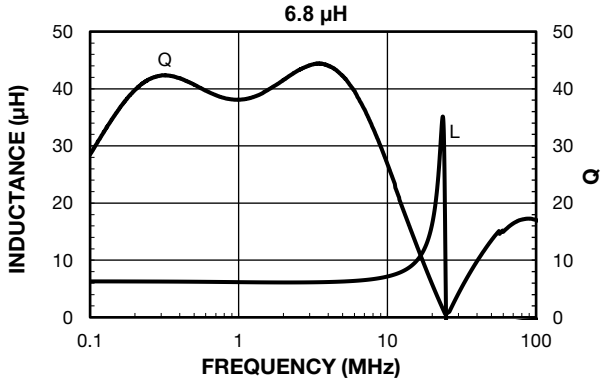

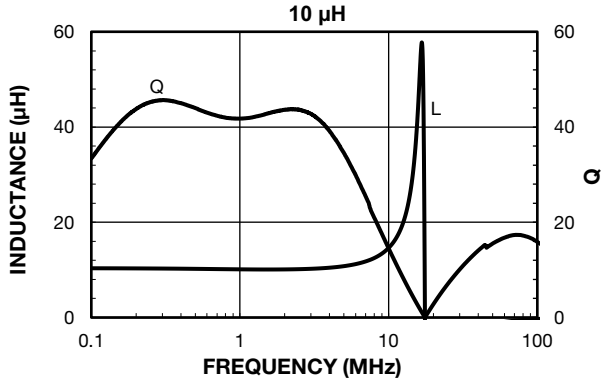

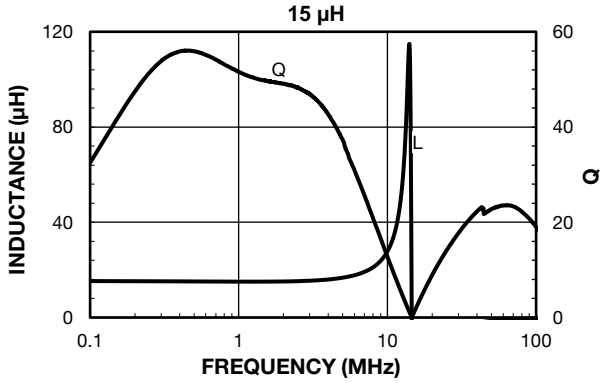

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