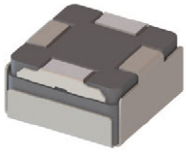
IHLE® High Current Inductors With E-Field Shield



LINKS TO ADDITIONAL RESOURCES

Product Page | 3D Models | Design Tools

APPLICATIONS

- Automotive Domain Control Units (DCU) and transmission / engine control
- DC/DC converters for infotainment, navigation systems
- Noise suppression for motors and power supplies
- LED lighting drivers

FEATURES

- High temperature up to 155 °C
- Reduces radiated E-field up to 20 dB (1)
- Reduces crosstalk and magnetic B-field leakage by 6 dB to nearby components
- Shields inductor from external noise
- Four terminals provide improved shock and vibration performance and greater mounting stability
- Integrated E-Field shield eliminates need for separate shielding
- AEC-Q200 qualified
- Patented shield construction
- IHLE design; PATENT(S): www.vishay.com/patents
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

AUTOMOTIVE GRADE

Pb-free

RoHS COMPLIANT

HALOGEN FREE GREEN (5-2008)

Note

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

STANDARD ELECTRICAL SPECIFICATIONS

PART NUMBER	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)
IHLE5050FHERR33M5A	0.33	0.83	0.92	62	44	79.9
IHLE5050FHERR47M5A	0.47	1.05	1.16	54	42	65.6
IHLE5050FHERR56M5A	0.56	1.24	1.33	50	32	63.1
IHLE5050FHERR68M5A	0.68	1.33	1.42	40	29	48.1
IHLE5050FHER1R0M5A	1.0	1.65	1.77	40	26	33.4
IHLE5050FHER1R2M5A	1.2	1.98	2.12	29	24.5	32.0
IHLE5050FHER1R5M5A	1.5	2.4	2.57	27.5	23.5	29.2
IHLE5050FHER2R2M5A	2.2	3.43	3.67	25.5	21.5	23.3
IHLE5050FHER3R3M5A	3.3	5.08	5.44	20.2	16.7	17.8
IHLE5050FHER4R7M5A	4.7	7.41	7.93	19.7	18.5	15.8
IHLE5050FHER5R6M5A	5.6	8.51	9.11	16.8	14.2	12.3
IHLE5050FHER6R8M5A	6.8	11.3	12.09	14.9	14.1	13.4
IHLE5050FHER8R2M5A	8.2	13.2	14.12	13.2	7.6	10.3
IHLE5050FHER100M5A	10	16.60	17.76	12.1	7.8	10.7
IHLE5050FHER120M5A	12	19.00	20.33	11.4	7.9	9.5
IHLE5050FHER150M5A	15	24.00	25.68	10.1	7.7	8.8
IHLE5050FHER220M5A	22	31.30	33.49	9.0	6.3	6.6
IHLE5050FHER330M5A	33	46.03	49.25	6.9	6.2	5.5
IHLE5050FHER470M5A	47	77.00	79.60	5.6	4.5	3.9
IHLE5050FHER820M5A	82	141.10	150.98	3.7	3.7	3.0
IHLE5050FHER101M5A	100	175.00	205.00	3.1	4.3	2.8

Notes

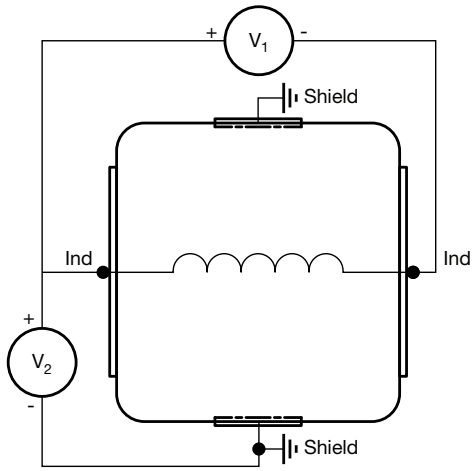
- All test data is referenced to 25 °C ambient
- Operating temperature range -55 °C to +155 °C
- The part temperature (ambient + temp. rise) should not exceed 155 °C under worst case operating conditions. Circuit design, component placement, PCB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application
- Rated operating voltage, across inductor (V1) = 75 V
- Rated isolation voltage, inductor lead to shield (V2) = 100 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 %

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

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



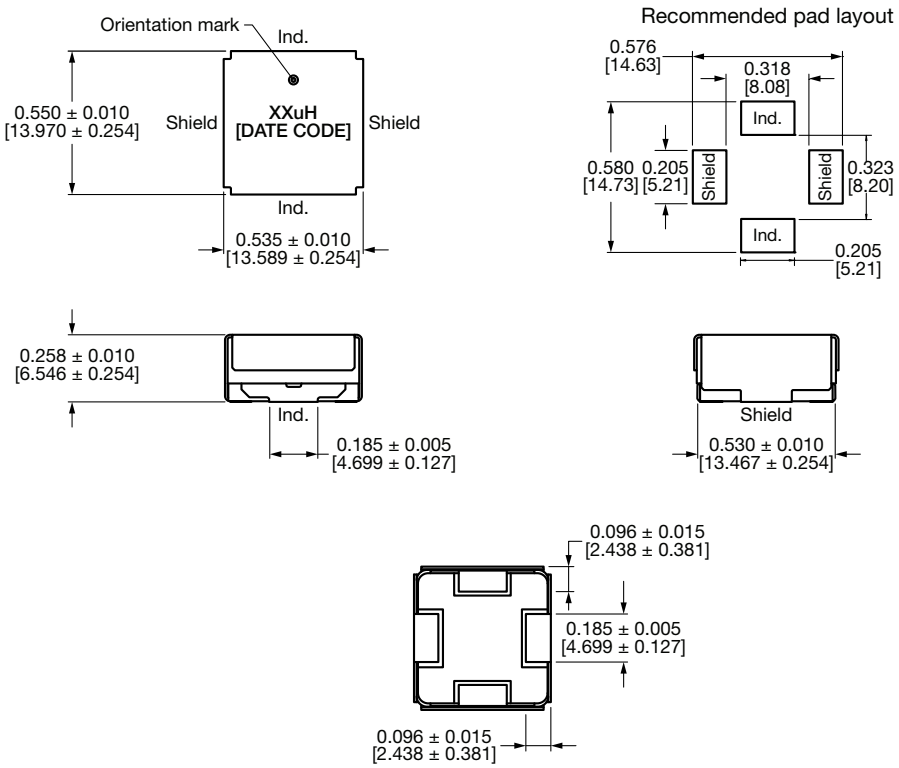
DESCRIPTION

IHLE-5050FH-5A	**1.0 µH**	**± 20 %**	**ER**	**e3**
MODEL	INDUCTANCE VALUE	INDUCTANCE TOLERANCE	PACKAGE CODE	JEDEC® LEAD (Pb)-FREE STANDARD

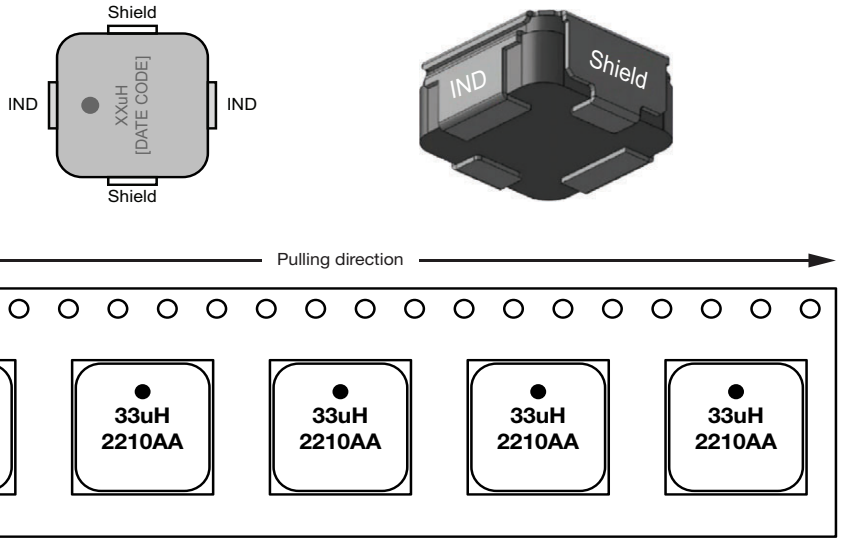
GLOBAL PART NUMBER

I H L E	5 0 5 0 F H	E R	1 R 0	M	5 A
PRODUCT FAMILY	SIZE	PACKAGE CODE	INDUCTANCE VALUE	TOLERANCE	SERIES
		ER = tape and reel	**1R0** = 1.0 Ω	**M** = 20 %	

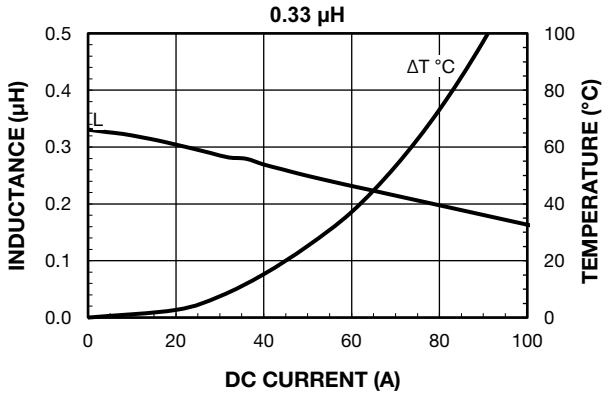
DIMENSIONS in inches [millimeters]

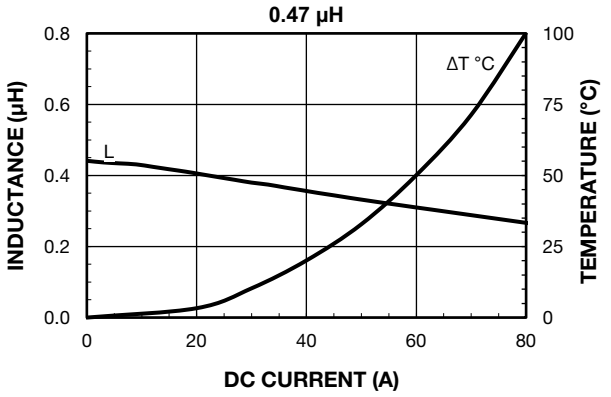


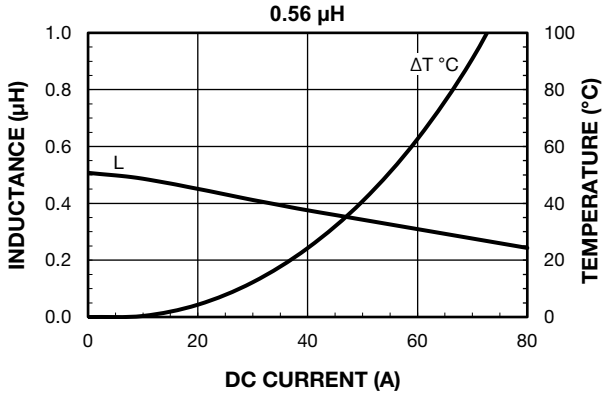
PART MARKING / POCKET TAPE ORIENTATION

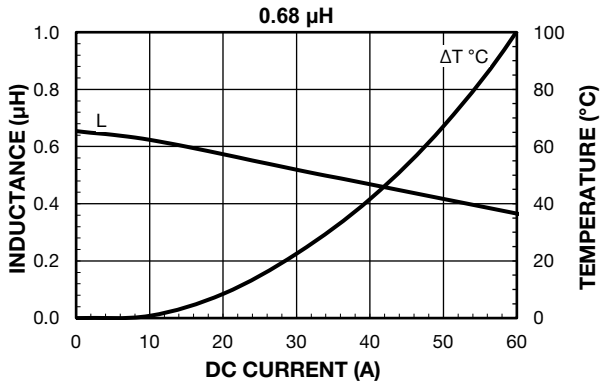


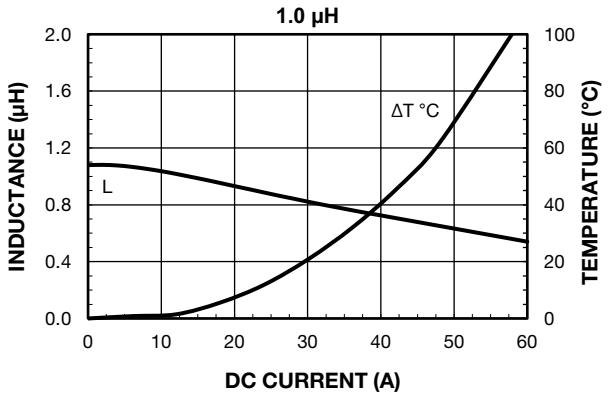
PERFORMANCE GRAPHS

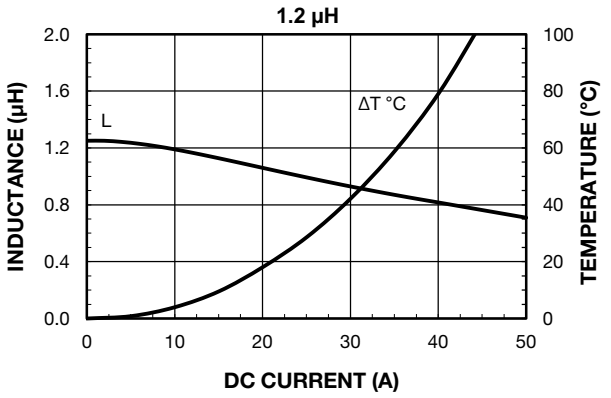


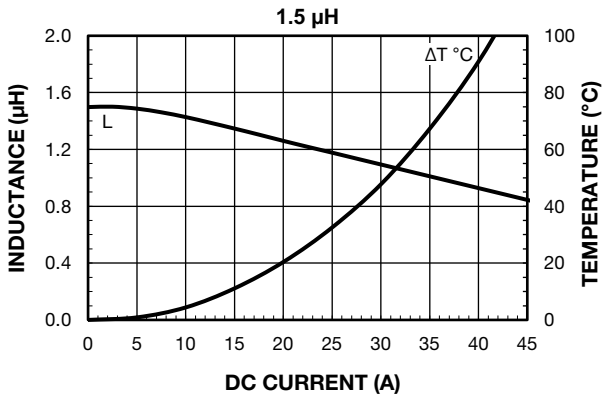


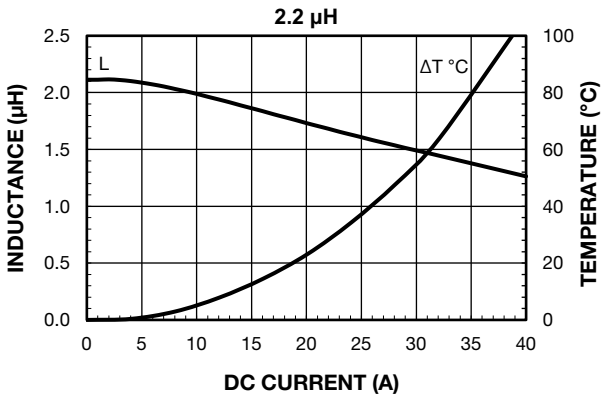






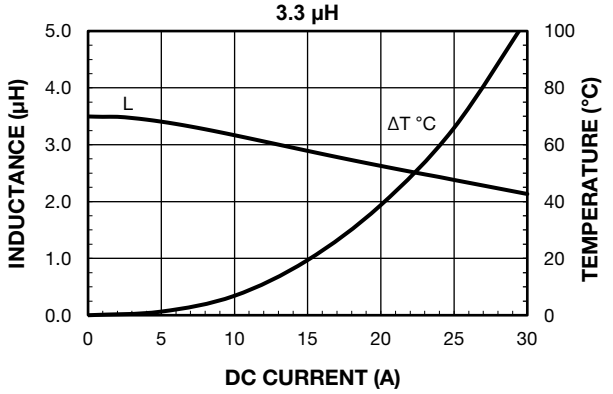




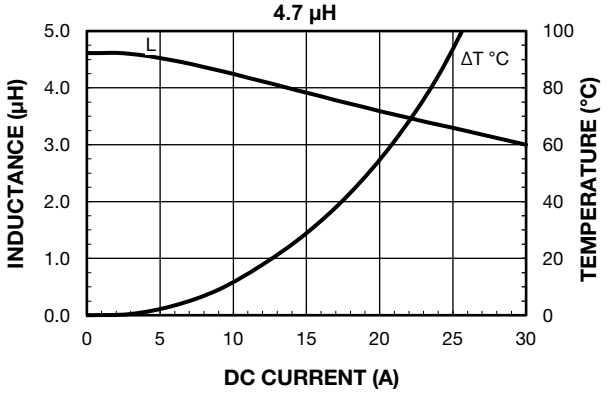


PERFORMANCE GRAPHS

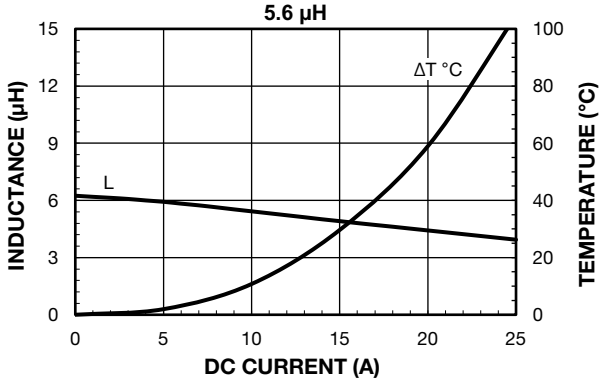
3.3 µH



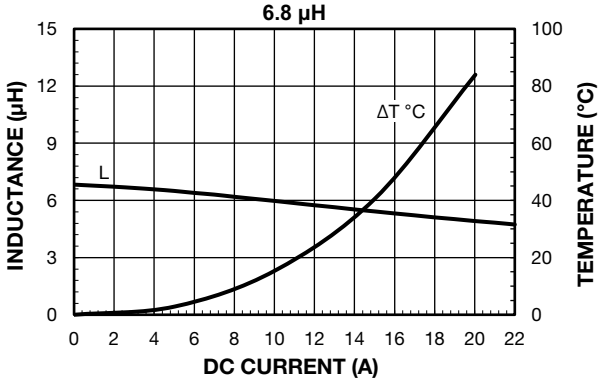
4.7 µH



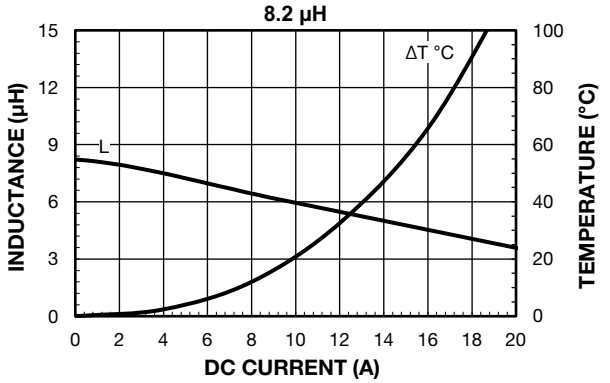
5.6 µH



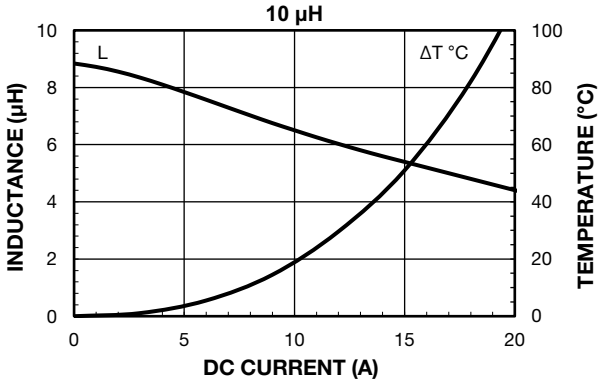
6.8 µH



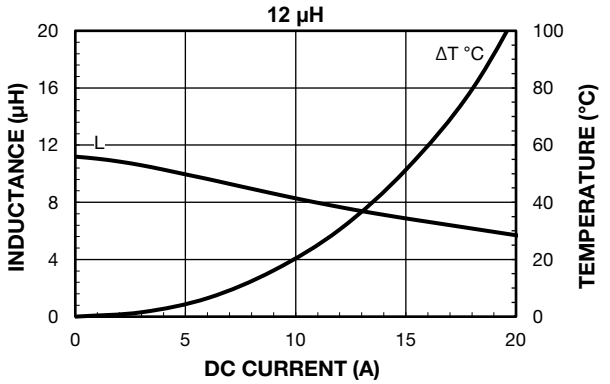
8.2 µH



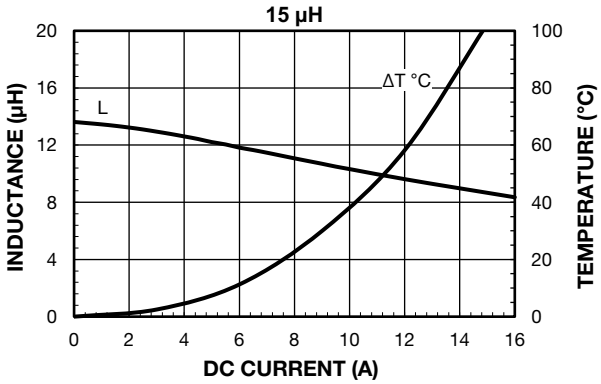
10 µH



12 µH



15 µH



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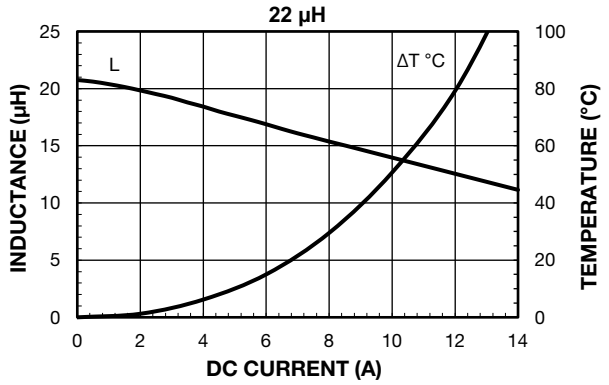

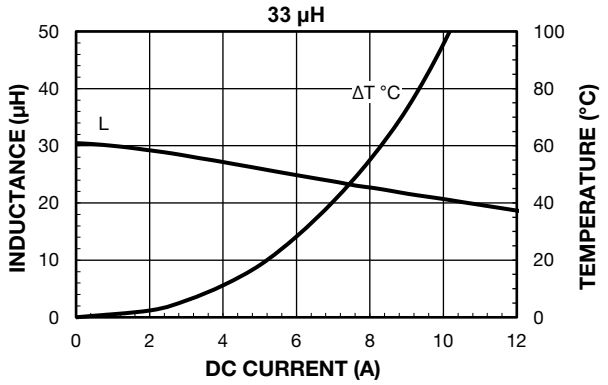

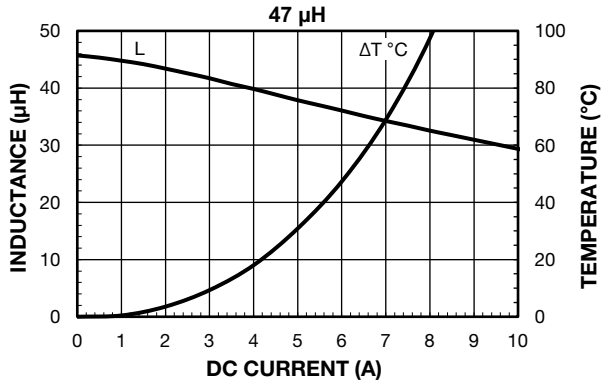

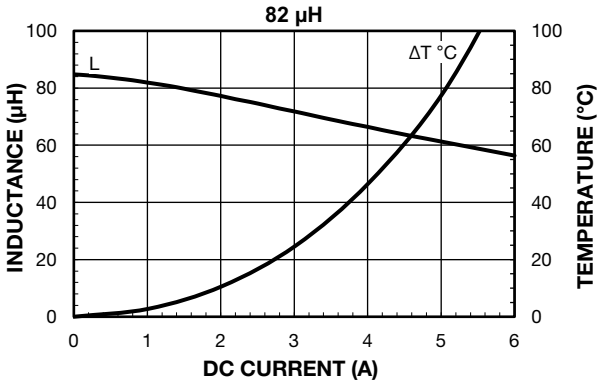

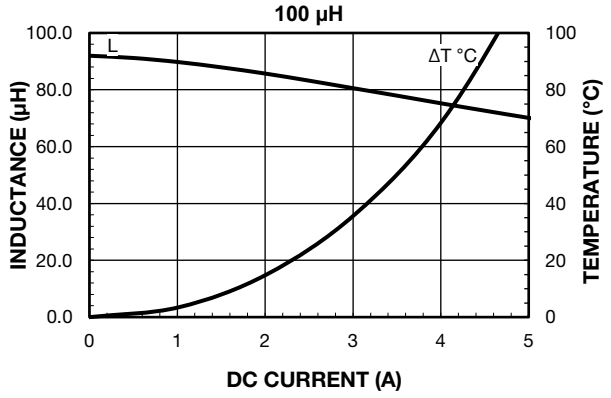

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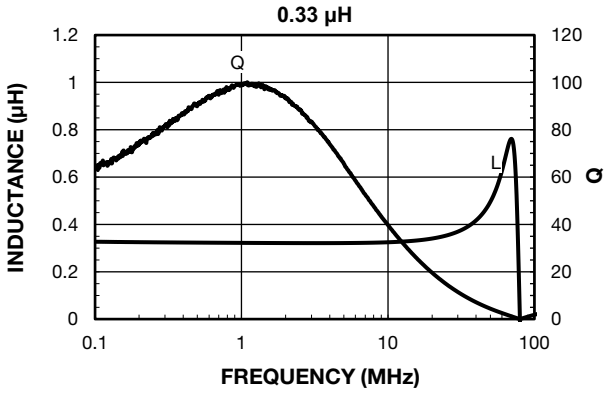

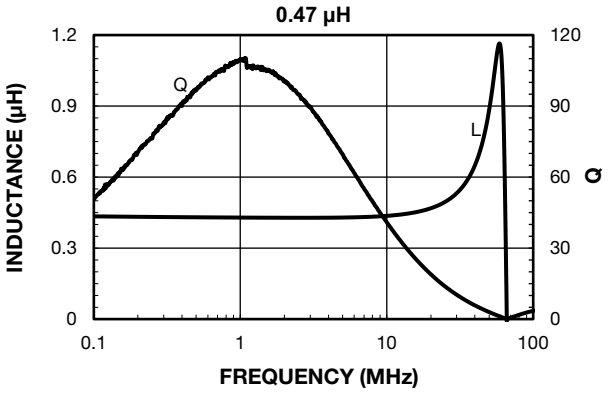

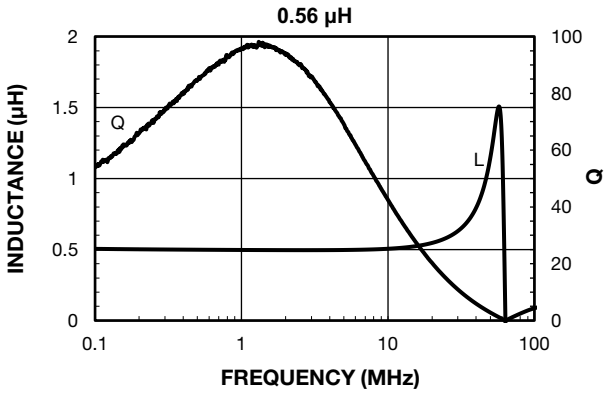

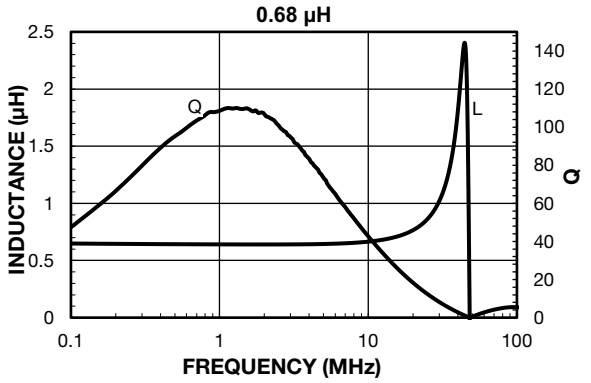

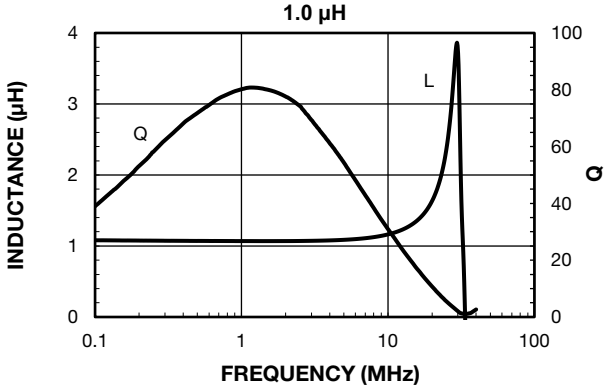

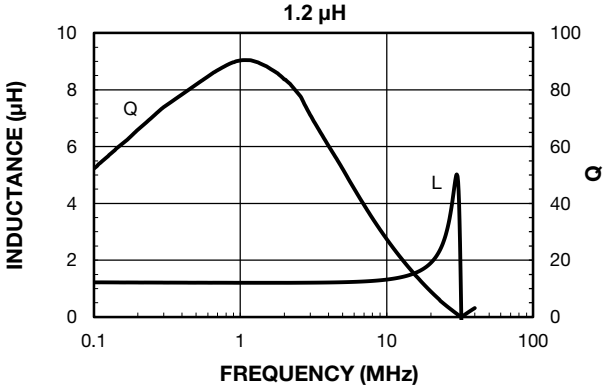

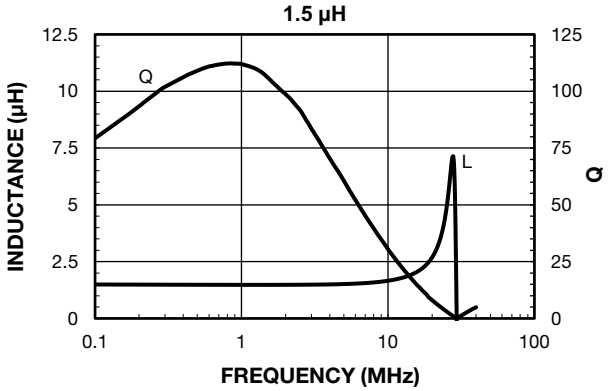

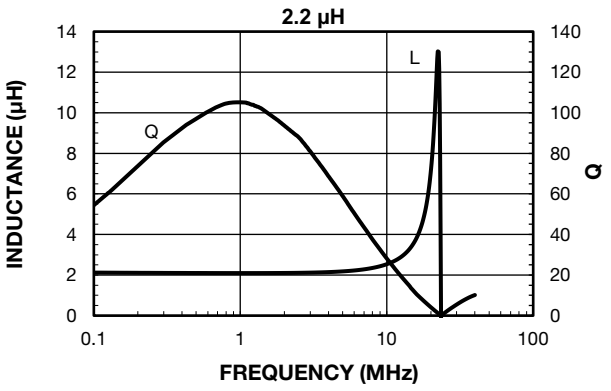

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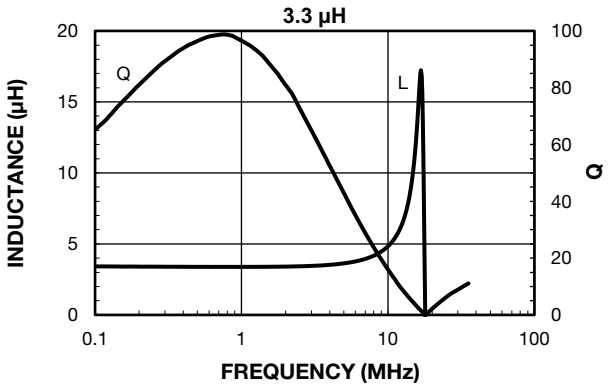

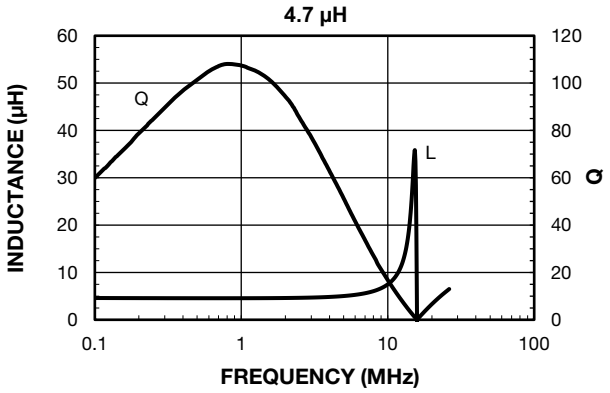

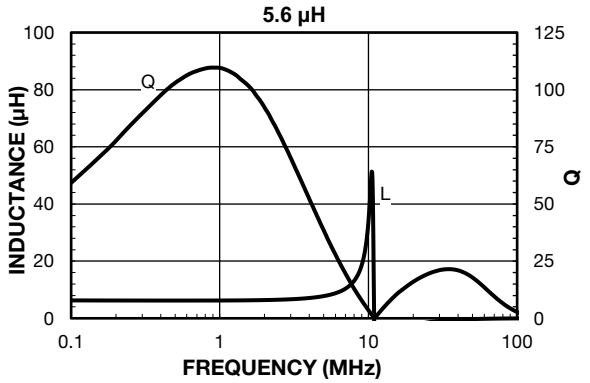

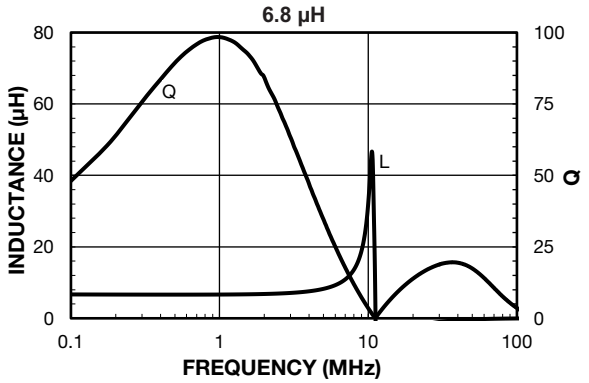

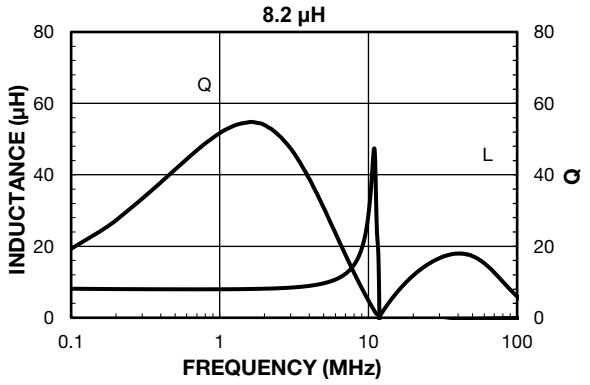

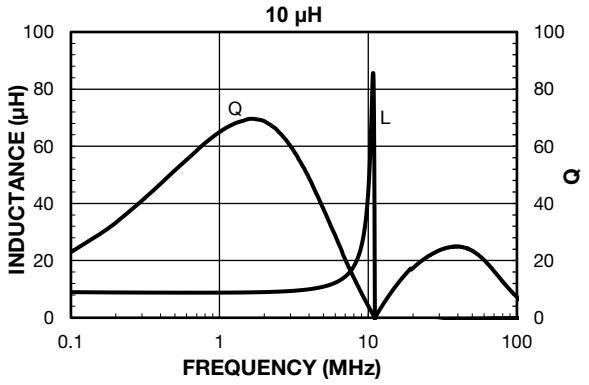

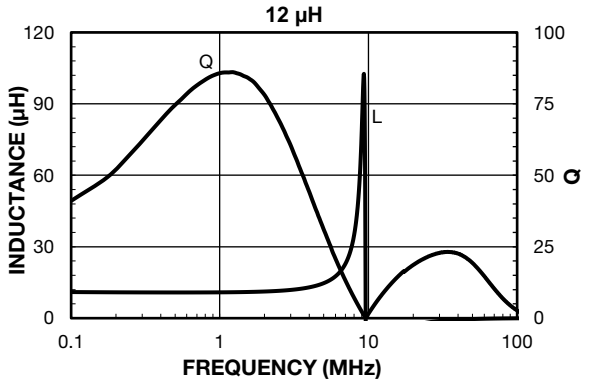

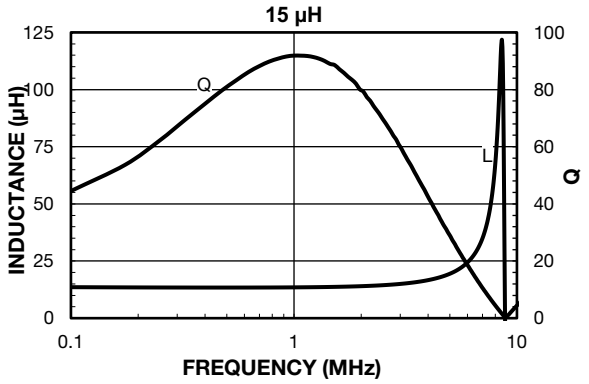

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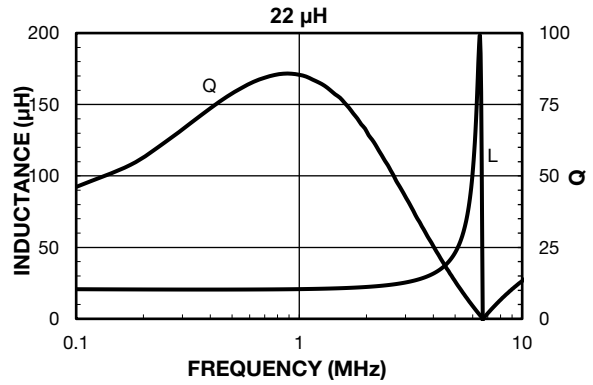

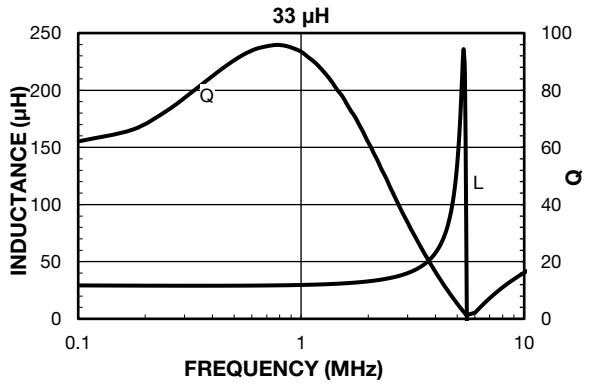

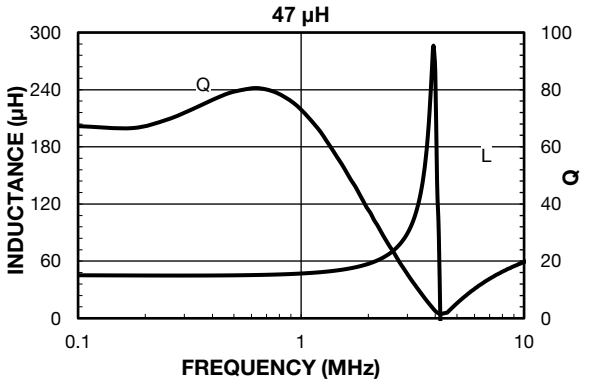

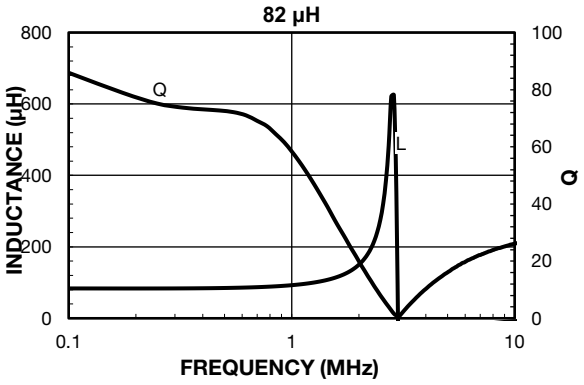

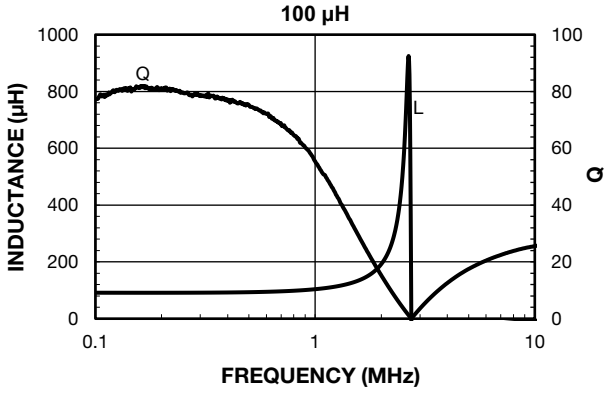

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