IHLP® Automotive Inductors, High Temperature (155 °C) Series



LINKS TO ADDITIONAL RESOURCES

Product Page | 3D Models | Design Tools

FEATURES

- 11.5 mm x 10.3 mm x 5.4 mm size
- High temperature, up to 155 °C
- Shielded construction
- Handles high transient current spikes without saturation
- Polarity marking available for EMI sensitive applications (see “EP” package code below for more information)
- Ultra low buzz noise, due to composite construction
- AEC-Q200 qualified
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

AUTOMOTIVE GRADE

Pb-free

RoHS COMPLIANT

HALOGEN FREE GREEN (5-2008)

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

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)
IHLP4040EDE_R33M5A	0.33	1.05	1.12	36.00	20.80	70.00
IHLP4040EDE_R47M5A	0.47	1.30	1.39	35.50	20.30	65.00
IHLP4040EDE_R68M5A	0.68	2.00	2.14	27.00	19.10	48.73
IHLP4040EDE_1R0M5A	1.0	2.35	2.50	26.70	17.61	39.85
IHLP4040EDE_2R2M5A	2.2	4.59	4.91	18.40	17.58	25.01
IHLP4040EDE_3R3M5A	3.3	7.42	7.94	14.80	14.30	20.00
IHLP4040EDE_4R7M5A	4.7	11.00	11.77	11.50	11.90	16.45
IHLP4040EDE_8R2M5A	8.2	20.90	22.36	8.61	11.10	12.55
IHLP4040EDE_100M5A	10	26.00	27.82	7.45	6.37	12.01
IHLP4040EDE_150M5A	15	36.70	39.27	6.50	5.17	8.17
IHLP4040EDE_220M5A	22	46.00	49.22	5.53	4.99	7.23
IHLP4040EDE_330M5A	33	74.00	79.18	4.40	4.40	6.07
IHLP4040EDE_470M5A	47	119.50	127.87	3.60	3.60	4.60
IHLP4040EDE_750M5A	75	204.00	214.20	2.74	3.51	3.53

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) = 75 V

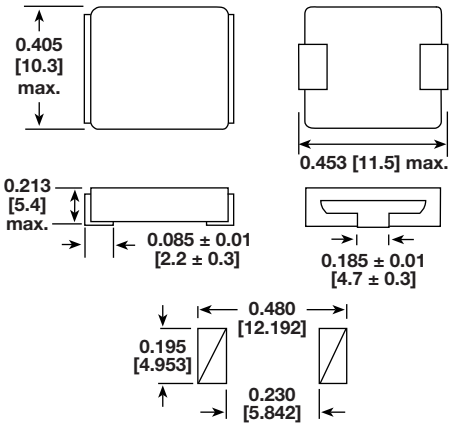
(1) DC current (A) that will cause an approximate ΔT of 40 °C

(2) DC current (A) that will cause L_0 to drop approximately 20 %

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DIMENSIONS in inches [millimeters]



DESCRIPTION

IHLP-4040ED-5A	4.7 µH	± 20 %	EK	e3
MODEL	INDUCTANCE VALUE	INDUCTANCE TOLERANCE	PACKAGE CODE	JEDEC® LEAD (Pb)-FREE STANDARD

GLOBAL PART NUMBER

I H L P	4 0 4 0 E D	E K	4 R 7	M	5 A
PRODUCT FAMILY	SIZE	PACKAGE CODE	IMPEDANCE VALUE	INDUCTANCE TOLERANCE	SERIES
		EK = tape and reel	**4R7** = 4.7 µH	**M** = ± 20 %	

PACKAGE CODE OPTIONS

EK = tape and reel packaging (700 pcs on 13-inch reel)

ER = tape and reel packaging (500 pcs on 13-inch reel)

EP = tape and reel packaging (500 pcs on 13-inch reel), includes polarity part marking

Note

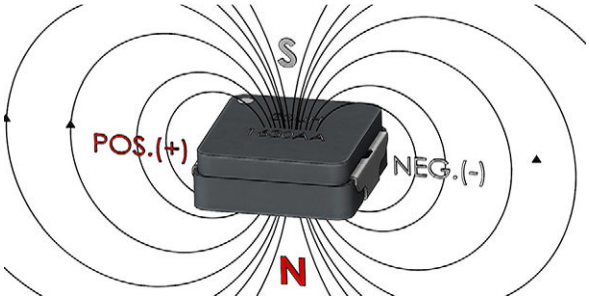
- For additional packaging details see "Packaging Methods"

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MAGNETIC FIELD

CONFIGURATION OF THE "B" (FLUX) FIELD FOR THE IHLP WITH POLARITY MARKING



When a positive (+) voltage is placed on the terminal marked with the polarity dot and the opposite terminal is negative (-), the resulting current flow will create a magnetic south pole on the top side of the IHLP.

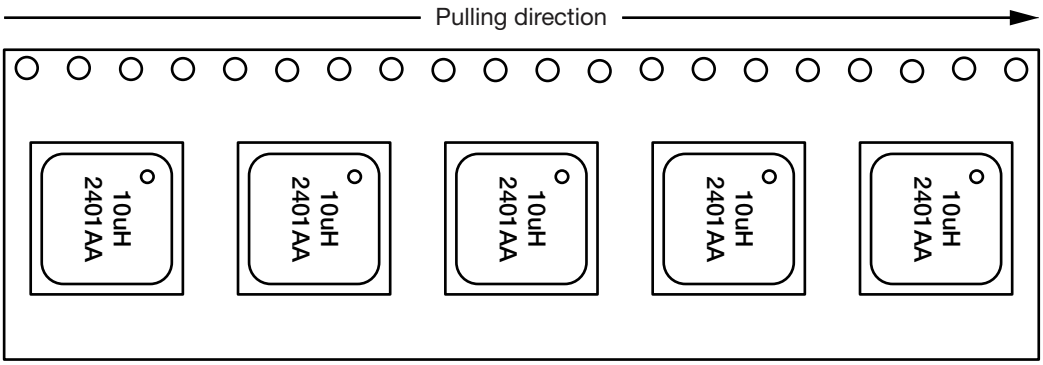
For the IHLP-4040ED-5A series, the polarity mark also indicates the "start" or "inside" lead of the winding.

Observing the polarity orientation when mounting the inductor will ensure the most consistent EMI reduction performance.

Drawing is for illustrative purposes only. The flux leakage from the inductor is minimal.

PART MARKING / POCKET TAPE ORIENTATION

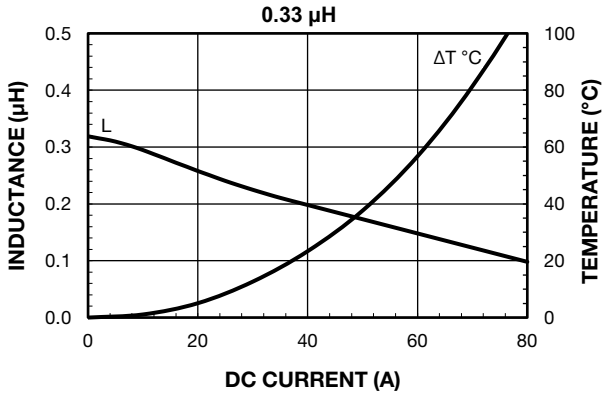
Part marking and tape orientation for IHLP with polarity marking

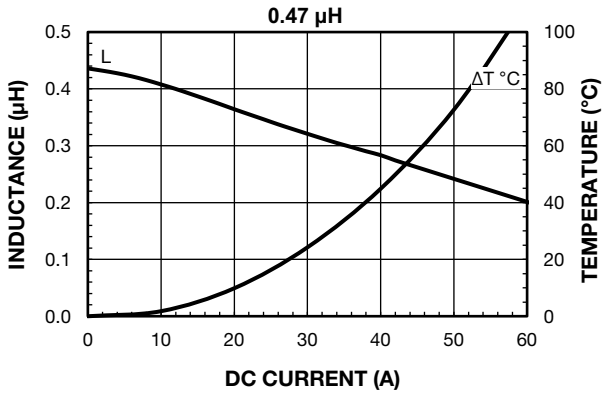


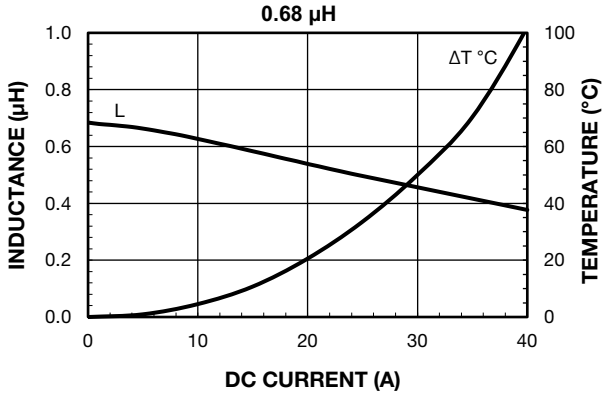
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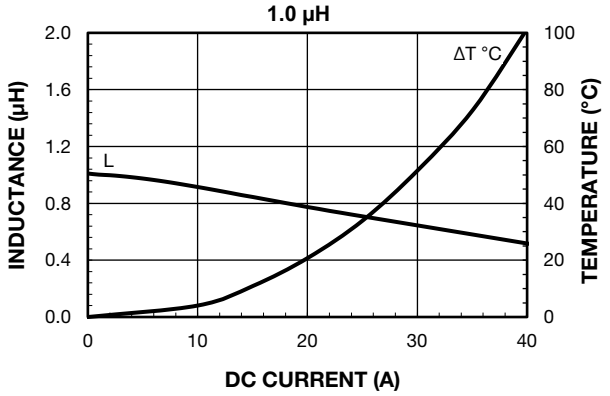
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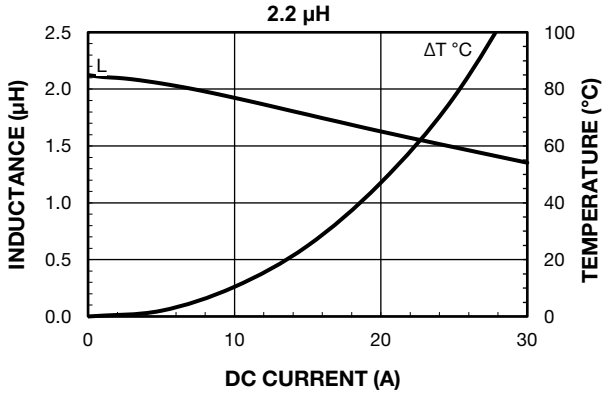
PERFORMANCE GRAPHS

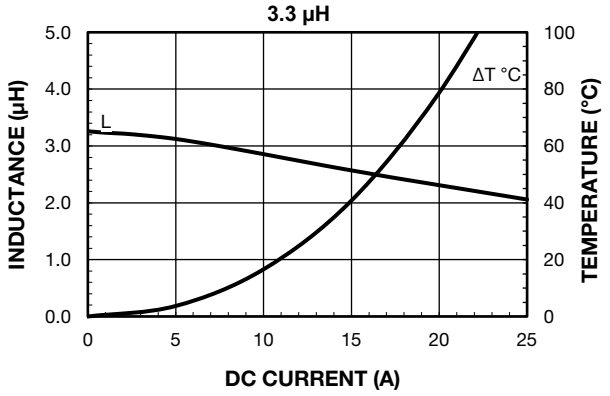


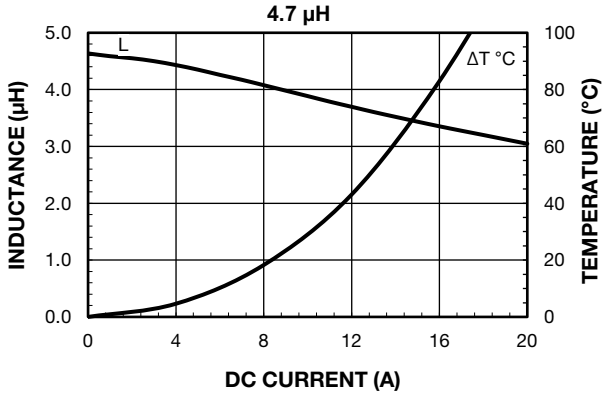


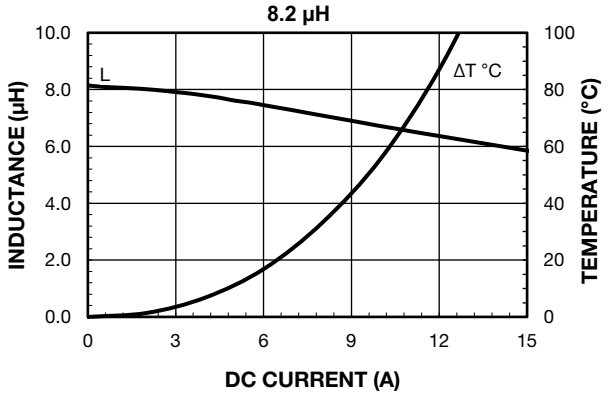








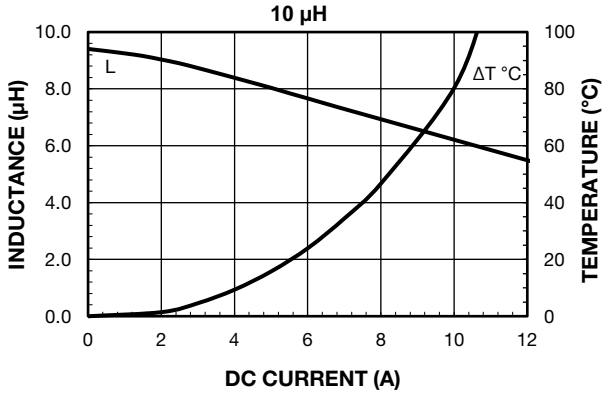


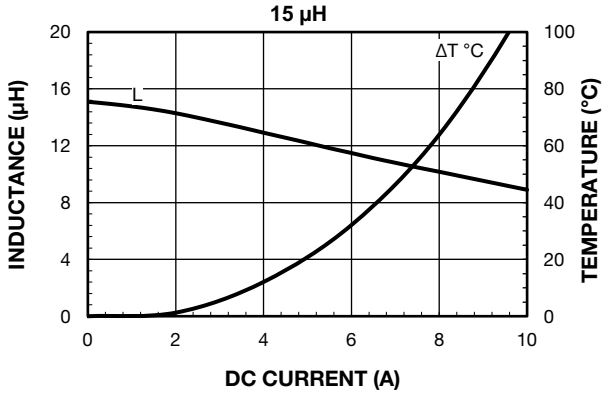


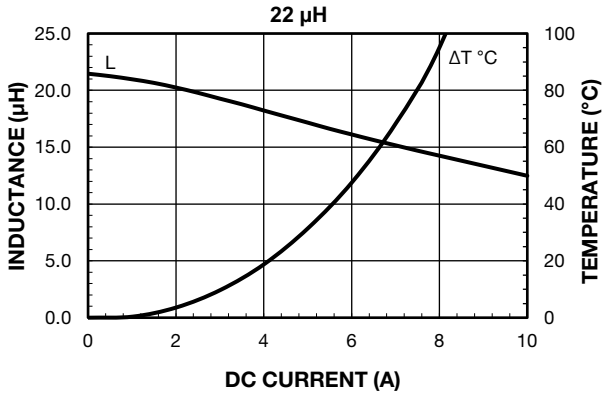
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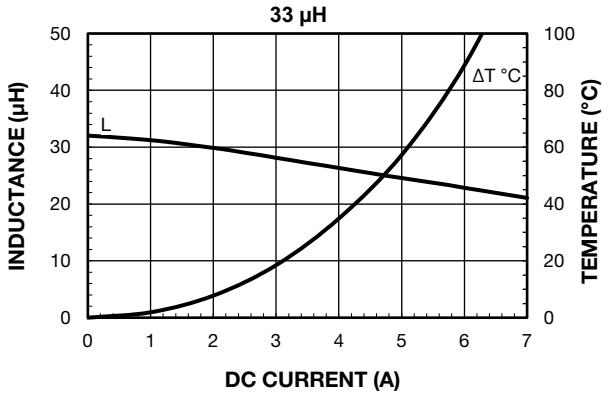
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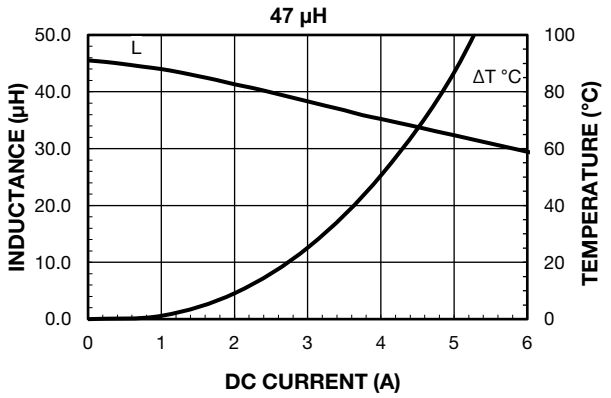
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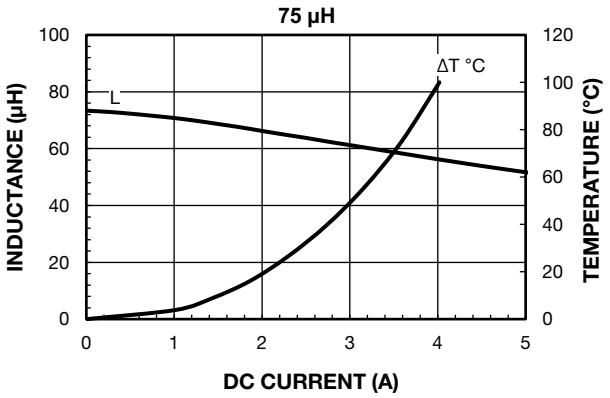








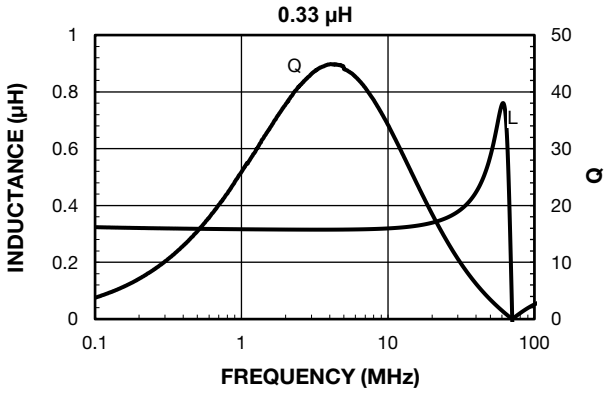


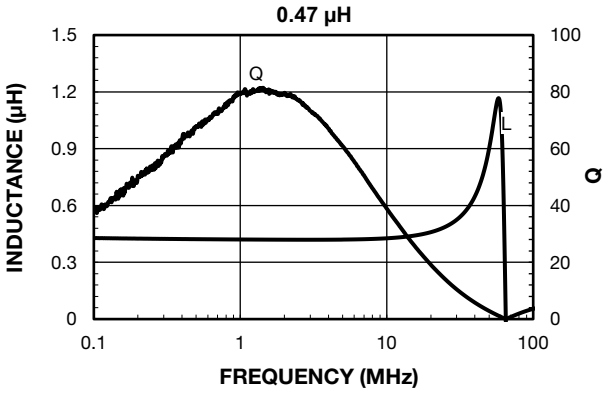


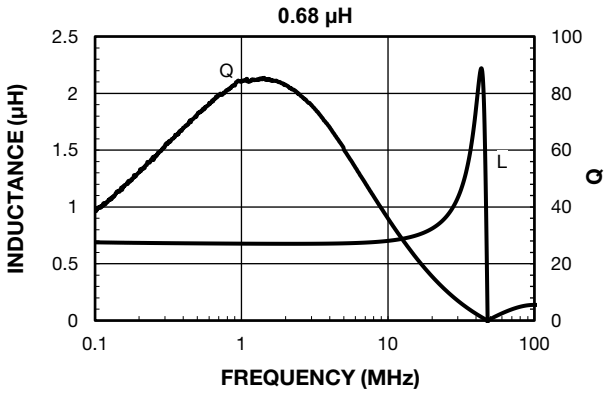
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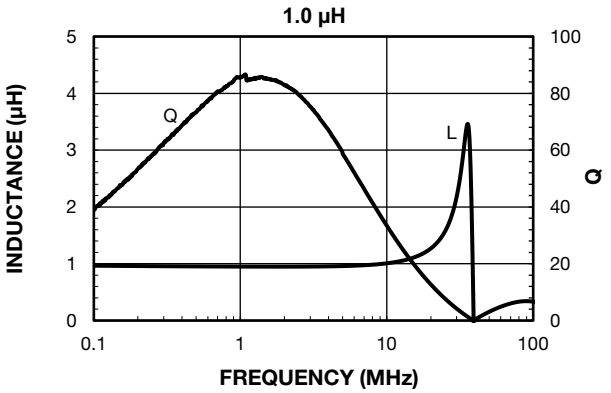
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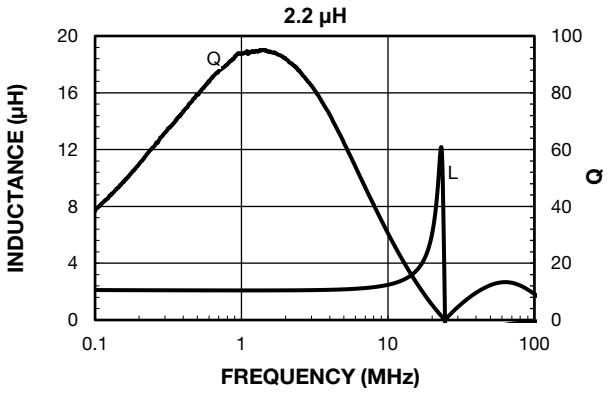
PERFORMANCE GRAPHS: INDUCTANCE AND Q VS. FREQUENCY

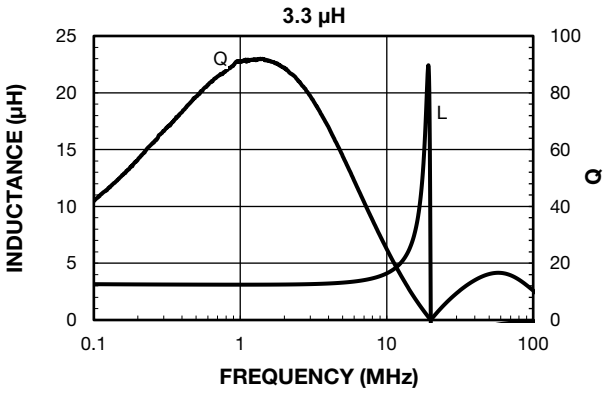


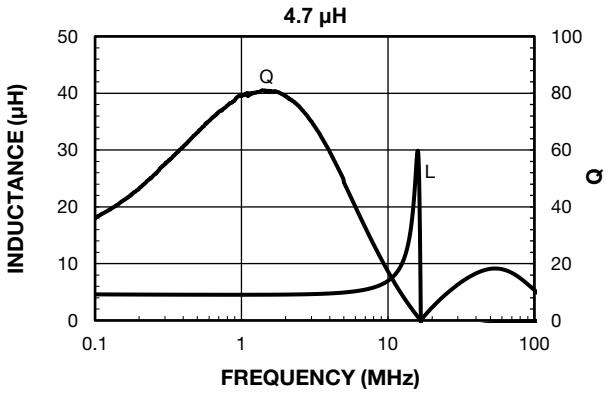


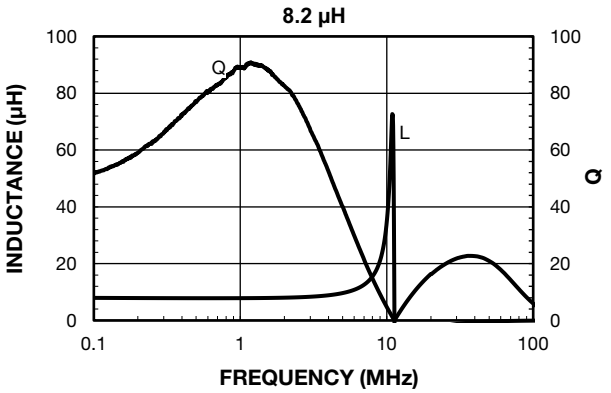








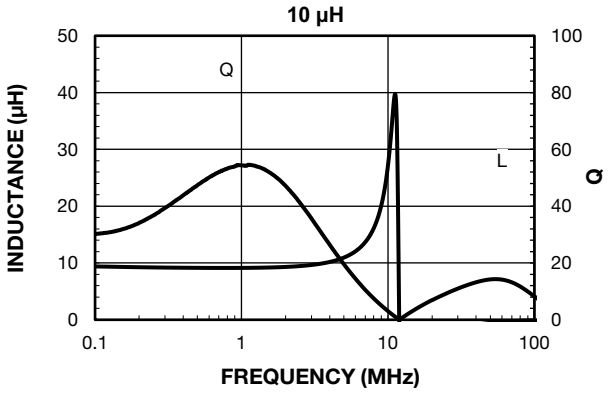


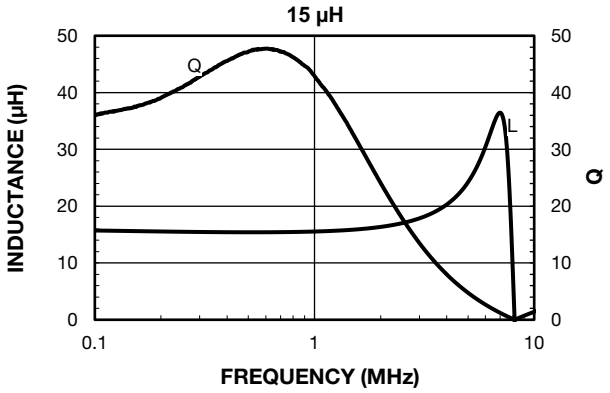


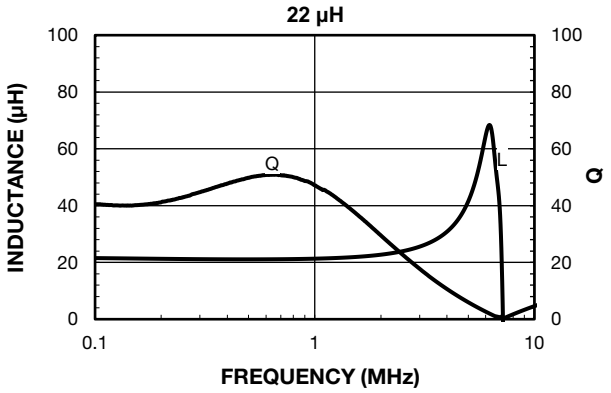
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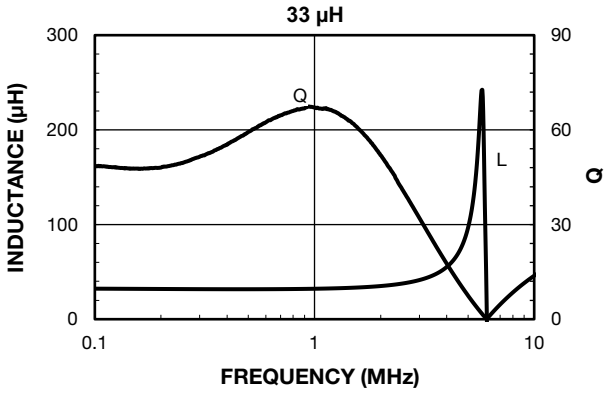
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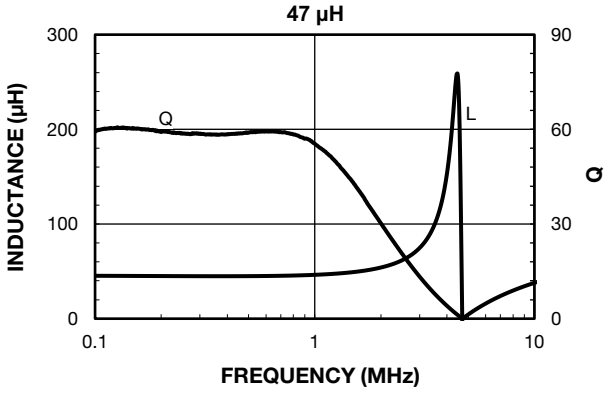
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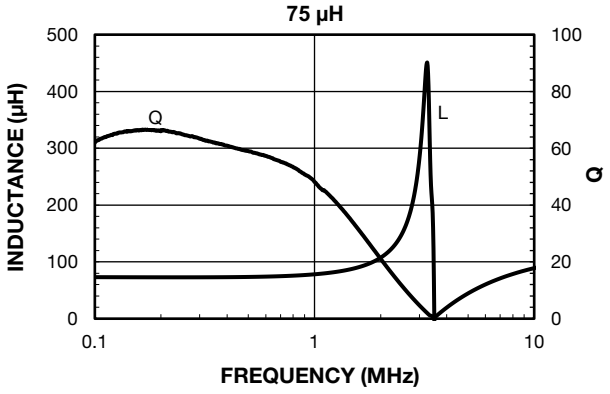












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