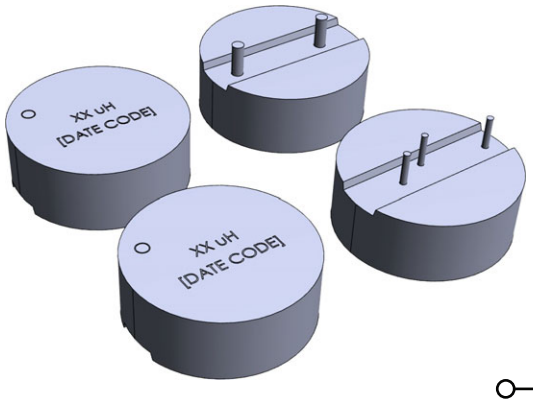
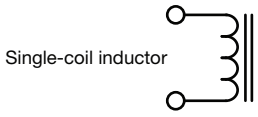
Automotive High Current, Radial, Through-Hole Power Inductor





FEATURES

- Magnetically shielded, metal alloy construction
- Size: 19.177 mm (dia.) x 8.738 mm
- Radial through-hole termination (THT) with third support lead for added mounting stability (for 33 µH and higher)
- Flat surface for heat sink mounting
- Coil orientation mark for consistent EMI performance (dot indicates inside start lead)
- High temperature up to 155 °C
- 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

- 48 V / 12 V bi-directional converters
- DC/DC converters using GaN FETs
- Noise suppression for motors

LINKS TO ADDITIONAL RESOURCES

Product Page

Calculators

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)
					20 % DROP	30 % DROP	
IHTH0750IZEBR47M5A	0.47	0.47	0.52	83.0	44.0	64.0	67.00
IHTH0750IZEB1R0M5A	1.0	0.87	0.92	66.0	44.0	70.0	35.70
IHTH0750IZEB2R2M5A	2.2	1.51	1.63	45.0	38.0	52.0	17.85
IHTH0750IZEB3R3M5A	3.3	2.28	2.40	40.0	33.0	46.0	16.70
IHTH0750IZEB4R7M5A	4.7	2.85	3.00	30.0	26.0	36.0	13.22
IHTH0750IZEB6R8M5A	6.8	3.97	4.18	24.5	22.0	31.0	9.50
IHTH0750IZEB8R2M5A	8.2	5.7	6.14	20.0	14.5	20.0	11.60
IHTH0750IZEB100M5A	10	7.32	7.70	17.7	13.0	18.0	9.77
IHTH0750IZEB220M5A	22	12.56	13.22	12.7	11.5	16.0	6.42
IHTH0750IZEB330M5A	33	22.61	23.80	9.5	10.0	14.0	4.58
IHTH0750IZEB470M5A	47	35.34	37.20	6.8	6.5	9.0	4.28
IHTH0750IZEB680M5A	68	46.47	48.92	6.2	6.2	8.5	2.74
IHTH0750IZEB820M5A	82	55.20	58.10	5.2	6.0	8.0	3.09
IHTH0750IZEB101M5A	100	60.80	64.00	5.0	5.2	7.0	2.63

Notes

- All test data is referenced to 25 °C ambient
- Operating temperature range -55 °C to +155 °C
- Operating voltage rating (across inductor) = 100 V
- 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

(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 % and 30 %, respectively

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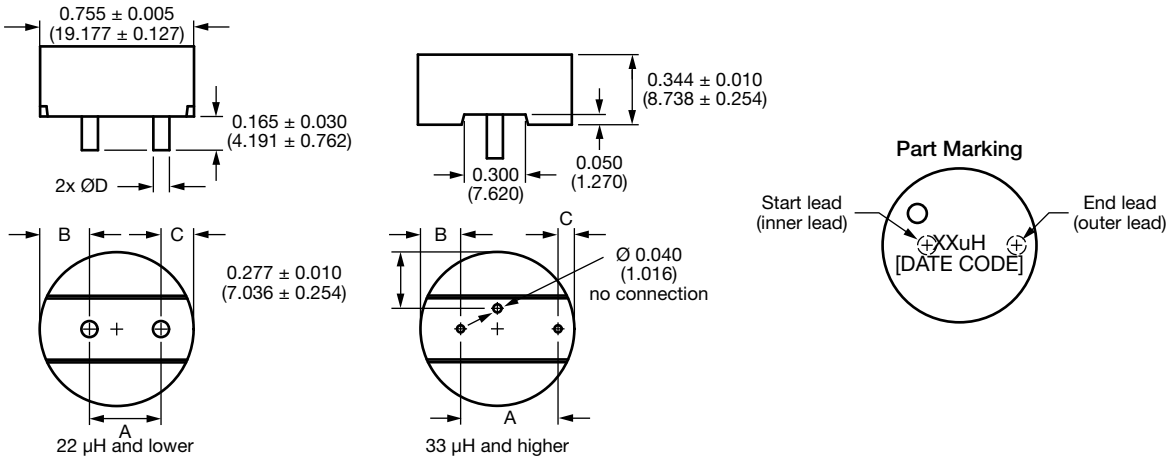
DIMENSIONS in inches [millimeters]



VALUE	A ± 0.010 (± 0.254)	B ± 0.010 (± 0.254)	C ± 0.010 (± 0.254)	D ± 0.005 (± 0.127)
0.47 µH	0.351 (8.915)	0.244 (6.198)	0.160 (4.064)	0.079 (2.007)
1.0 µH	0.487 (12.370)	0.172 (4.369)	0.096 (2.438)	0.071 (1.803)
2.2 µH	0.487 (12.370)	0.172 (4.369)	0.096 (2.438)	0.071 (1.803)
3.3 µH	0.464 (11.786)	0.179 (4.547)	0.111 (2.819)	0.063 (1.600)
4.7 µH	0.464 (11.786)	0.179 (4.547)	0.111 (2.819)	0.056 (1.422)
6.8 µH	0.522 (13.259)	0.147 (3.734)	0.085 (2.159)	0.056 (1.422)
8.2 µH	0.427 (10.846)	0.245 (6.223)	0.082 (2.083)	0.050 (1.210)
10 µH	0.427 (10.846)	0.245 (6.223)	0.082 (2.083)	0.050 (1.210)
22 µH	0.450 (11.430)	0.226 (5.740)	0.079 (2.007)	0.039 (0.991)
33 µH	0.477 (12.116)	0.197 (5.004)	0.080 (2.032)	0.035 (0.889)
47 µH	0.435 (11.049)	0.247 (6.274)	0.072 (1.829)	0.031 (0.787)
68 µH	0.435 (11.049)	0.247 (6.274)	0.072 (1.829)	0.031 (0.787)
82 µH	0.458 (11.633)	0.227 (5.766)	0.070 (1.778)	0.028 (0.711)
100 µH	0.458 (11.633)	0.227 (5.766)	0.070 (1.778)	0.028 (0.711)

DESCRIPTION

IHTH-0750IZ-5A	**4.7 µH**	**± 20 %**
MODEL	INDUCTANCE VALUE	INDUCTANCE TOLERANCE

GLOBAL PART NUMBER

I H T H	0 7 5 0 I Z	E B	4 R 7	M	5 A
PRODUCT FAMILY	SIZE	PACKAGE CODE	INDUCTANCE VALUE	INDUCTANCE TOLERANCE	SERIES
		EB = tray	**4R7** = 4.7 µH	**M** = ± 20 %	

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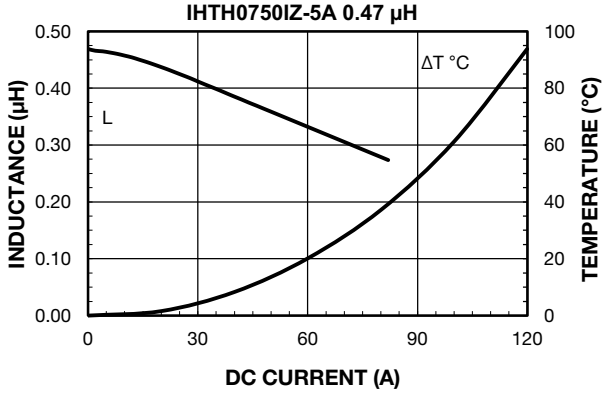
PERFORMANCE GRAPHS

IHTH0750IZ-5A 0.47 µH



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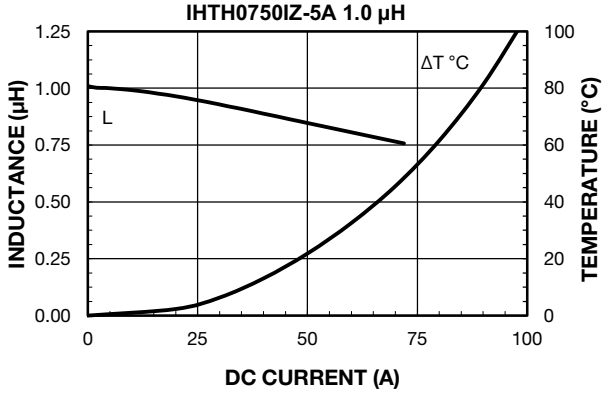

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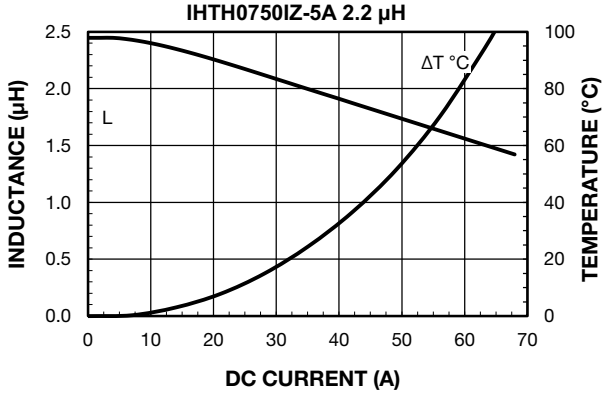

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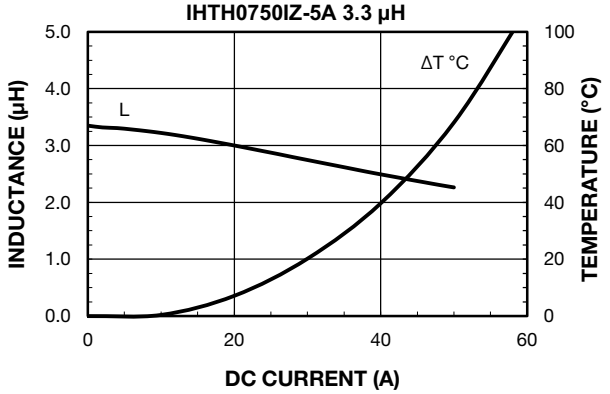

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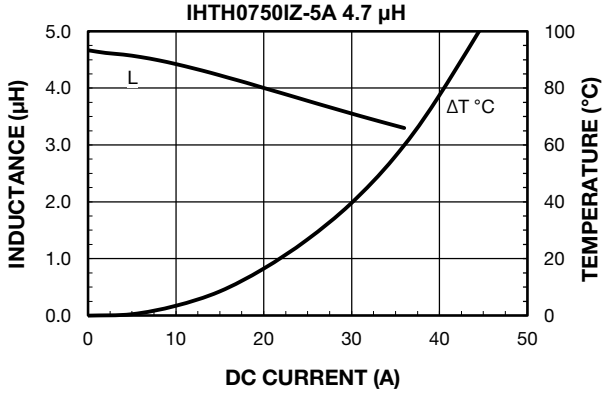

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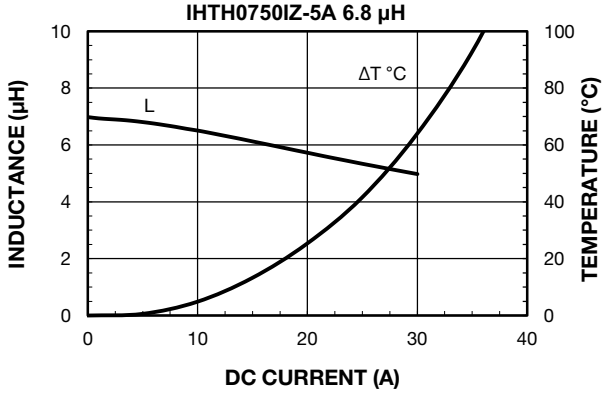

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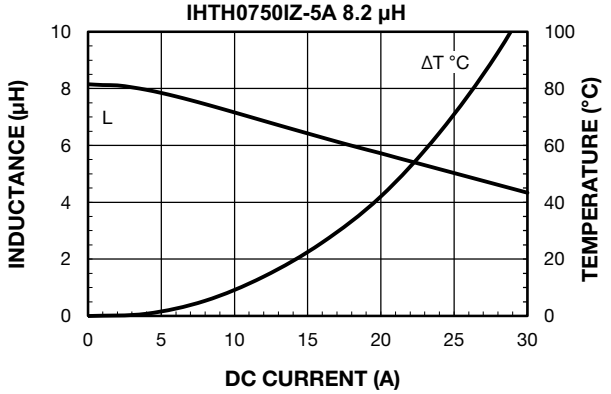

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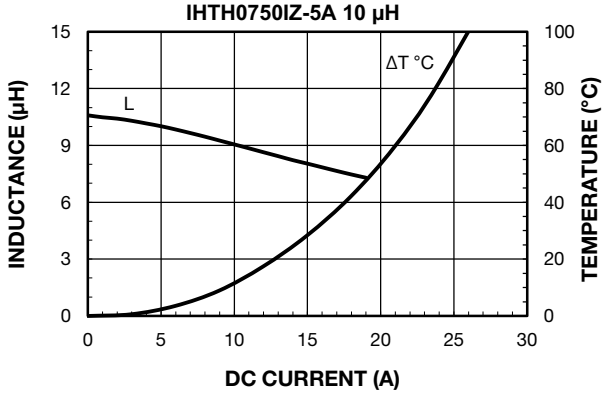

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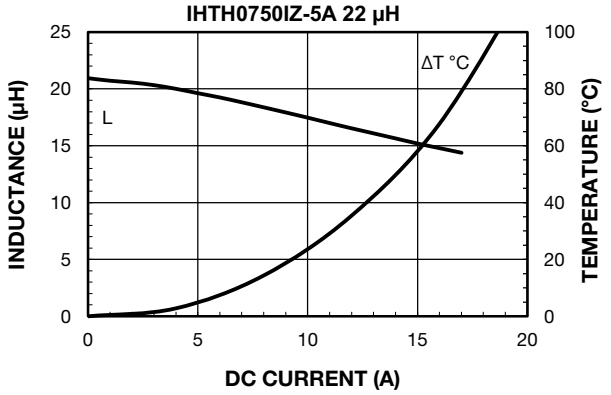

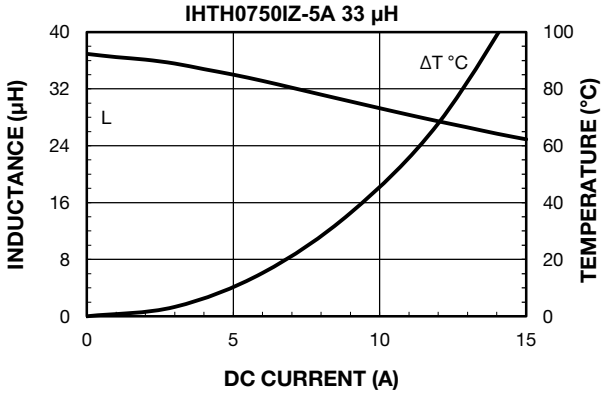

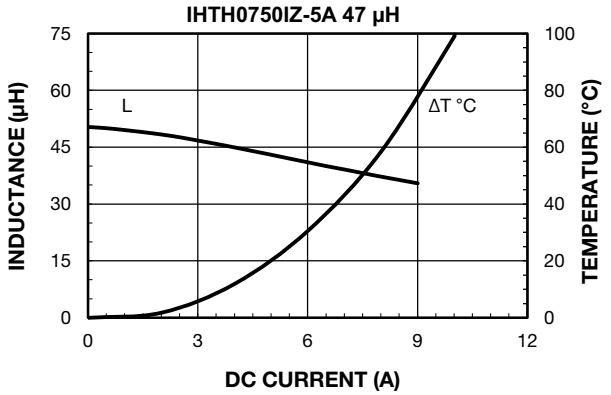

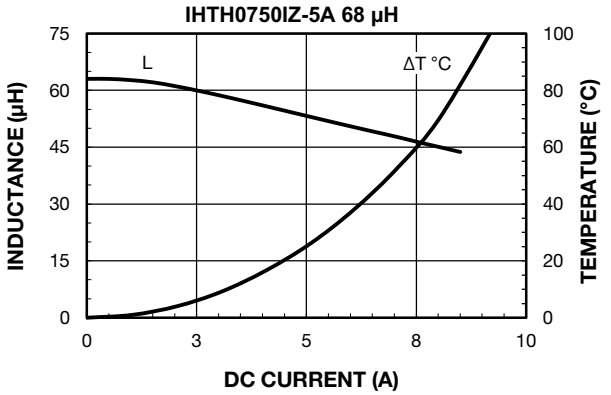

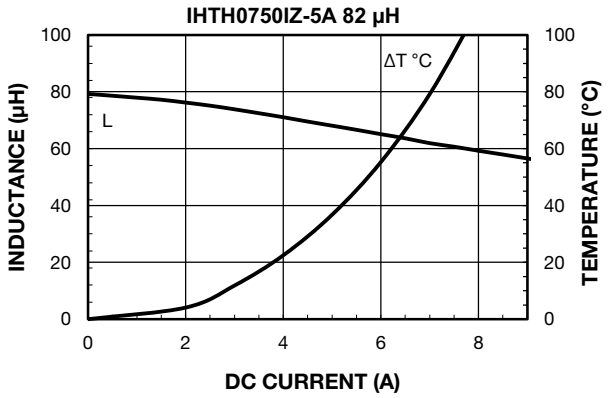

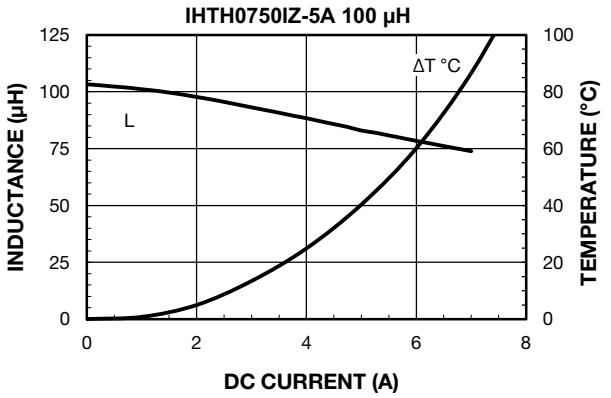

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PERFORMANCE GRAPHS: INDUCTANCE AND Q VS. FREQUENCY

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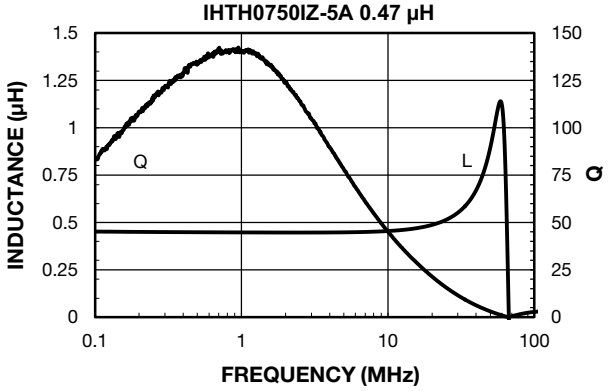

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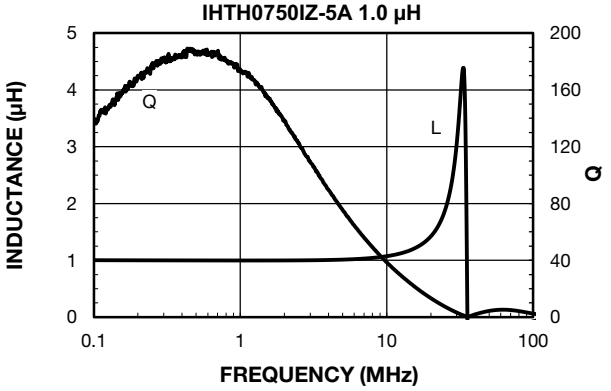

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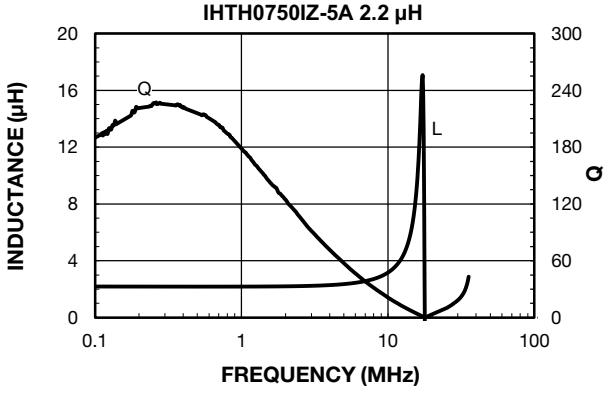

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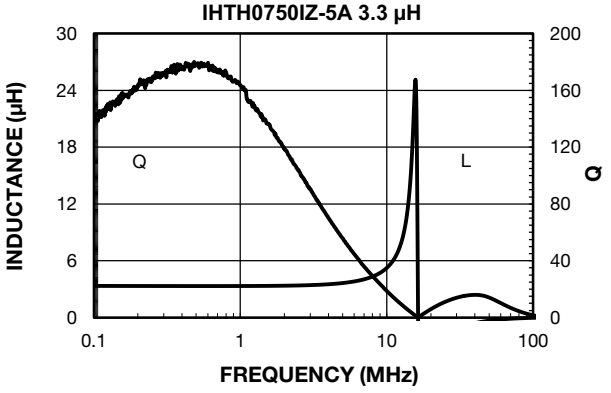

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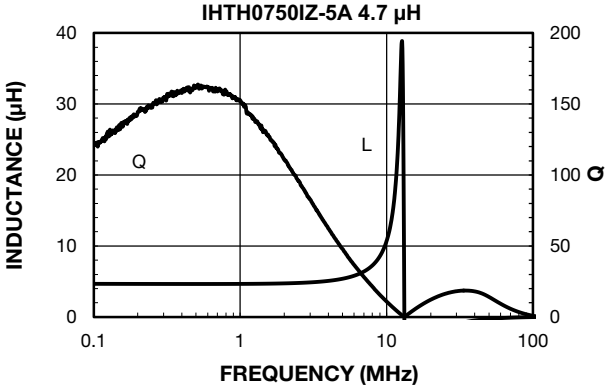

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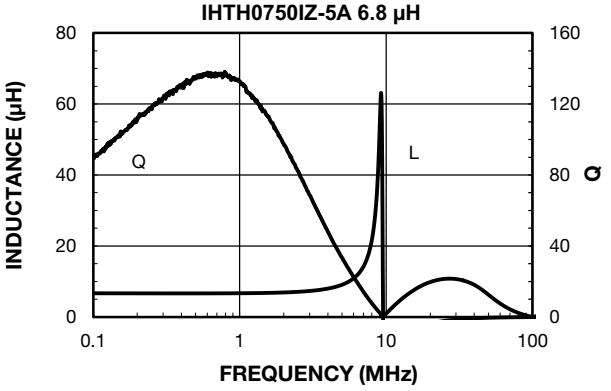

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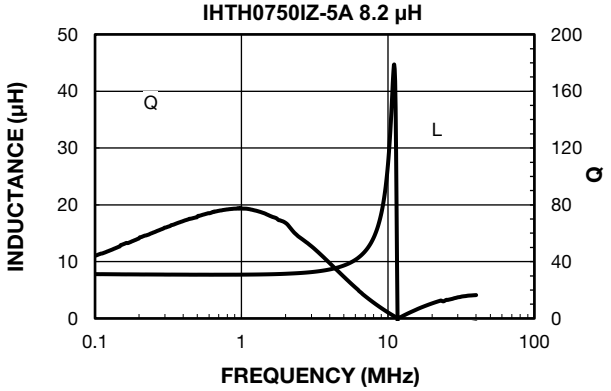

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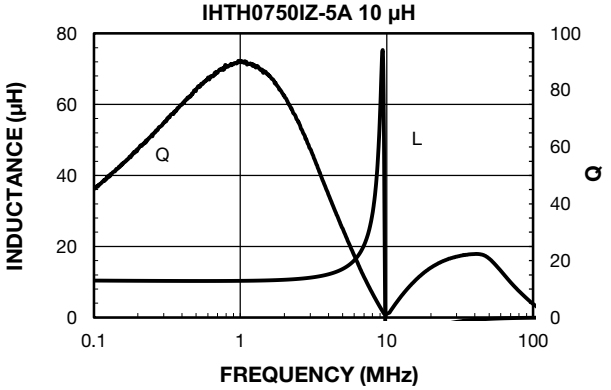

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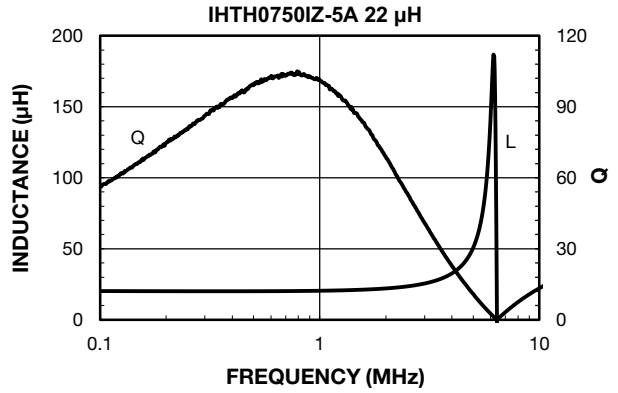

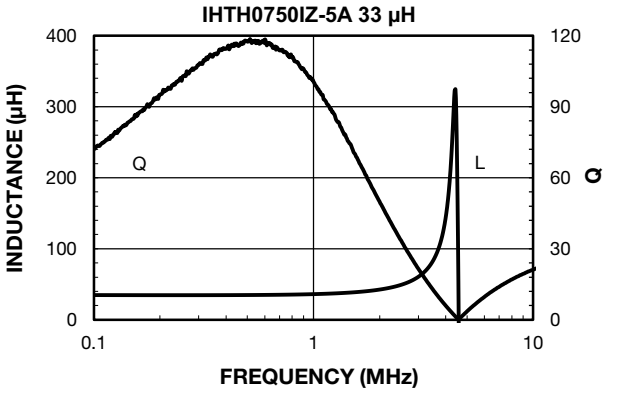

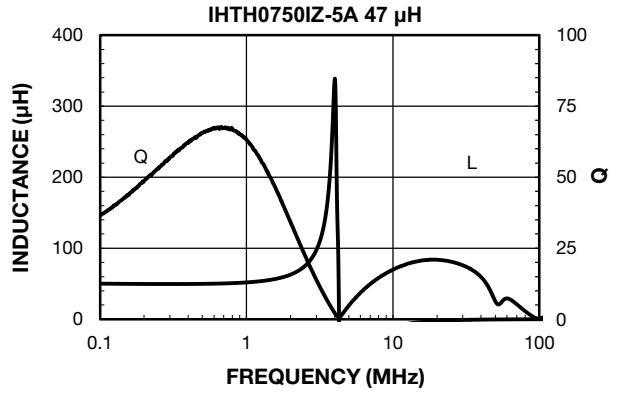

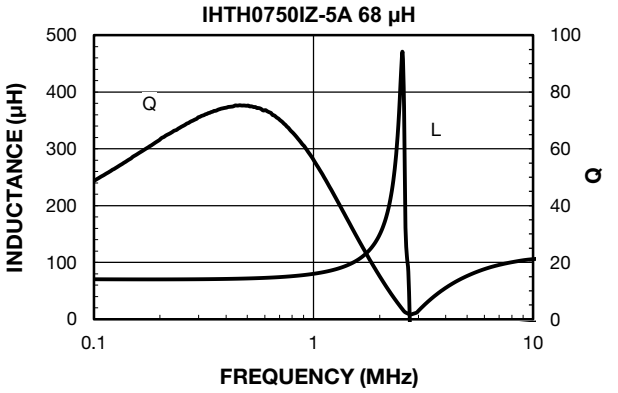

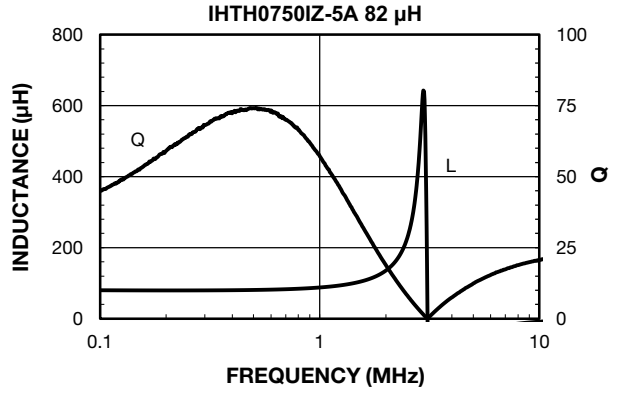

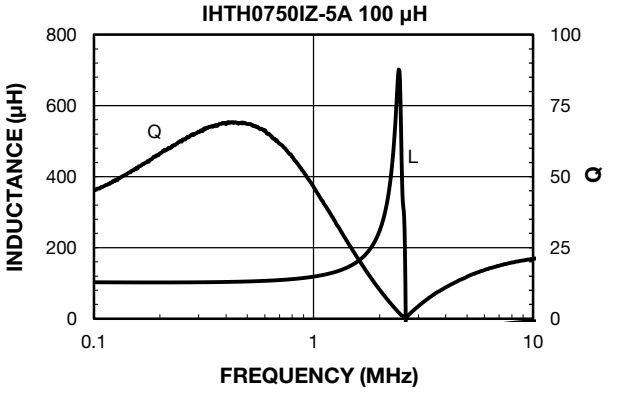

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