SGIHLP® - Space Grade (MIL-STD-981 Compliant) IHLP® Inductors

LINKS TO ADDITIONAL RESOURCES

Calculators Infographics

FEATURES

- MIL-STD-981 class S compliant (see “Screening Codes”)
- High temperature rating, up to 180 °C
- Shielded construction
- Lowest DCR/µH, in this package size
- Handles high transient current spikes without saturation
- Low profile package with high current saturation levels
- IHLP design; PATENT(S): www.vishay.com/patents

APPLICATIONS

- Low profile, high current power supplies
- High current POL converters
- DC/DC converters in distributed power systems
- Power converter for solar panels
- Noise suppression

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	1.66	1.77	30.0	28.5	72.1
1.0	2.98	3.19	23.5	24.0	37.2
1.5	4.31	4.62	22.0	17.9	32
2.2	8.26	8.88	15	12	30.1
3.3	11.11	11.93	11.0	12.0	25.5
4.7	14.3	15.32	9.8	9.2	20.1
5.6	16.5	17.60	9.3	9.0	16.3
6.8	20.9	22.36	8.0	9.0	16.3
10	30.9	33.06	6.5	8.5	11.5
15	47.0	50.29	5.1	7.7	10.4
22	70.5	75.44	4.1	6.4	8.30
33	110	117.70	3.7	4.2	5.79
47	167	178	3.1	4.1	5.22
68	240	252	2.4	3.5	4.02

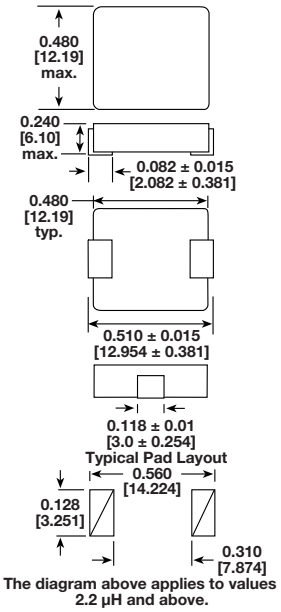
Notes

- All test data is referenced to 25 °C ambient
- Operating temperature range -55 °C to +180 °C
- The part temperature (ambient + temp. rise) should not exceed 180 °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
- Maximum net weight = 4.5 g

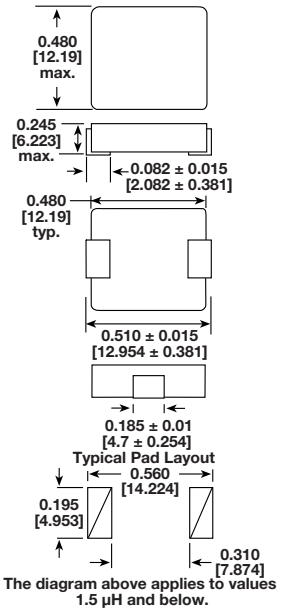
(1) DC current (A) that will cause an approximate ΔT of 40 °C

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

DIMENSIONS in inches [millimeters]



The diagram above applies to values 2.2 µH and above.



The diagram above applies to values 1.5 µH and below.

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

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

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DESCRIPTION

SGIHLP-48FA-8	4.7 µH	± 20 %	B = bulk / tray, T = tape
MODEL	INDUCTANCE VALUE	INDUCTANCE TOLERANCE	PACKAGE CODE

GLOBAL PART NUMBER

S	G	I	H	L	P	4	8	F	A	B	4	R	7	M	8	1	S
PRODUCT FAMILY						SIZE				B = BULK / TRAY, T = TAPE	INDUCTANCE VALUE			TOL.	SERIES	SCREENING	

SCREENING CODES

1S: MIL-STD-981 group A and B (full screen)	**1P:** basic production screen, product is not MIL-STD-981 compliant [1]

Note

[1] All 1P product is intended to be used for design validation testing only

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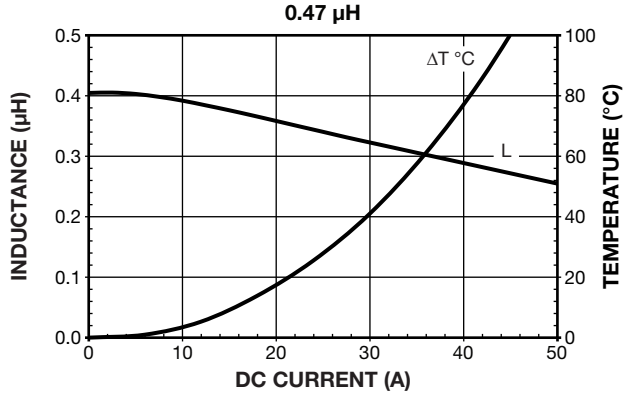
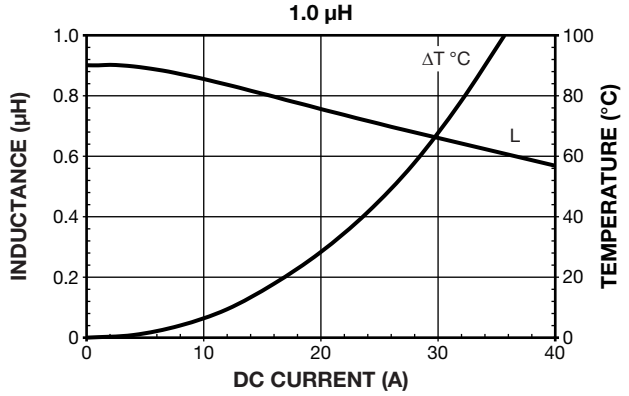
PERFORMANCE GRAPHS

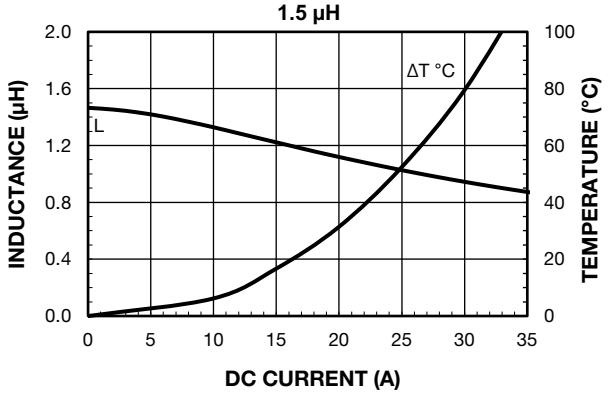
0.47 µH



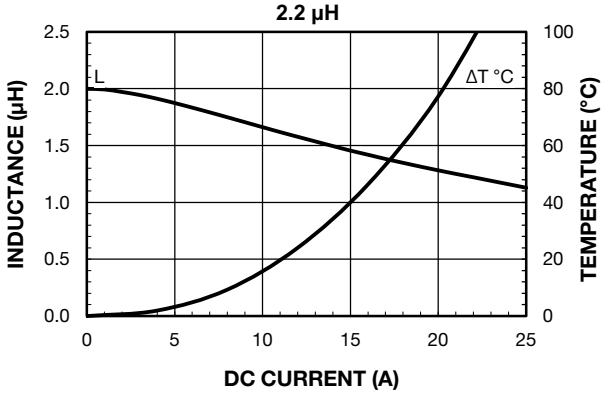
1.0 µH



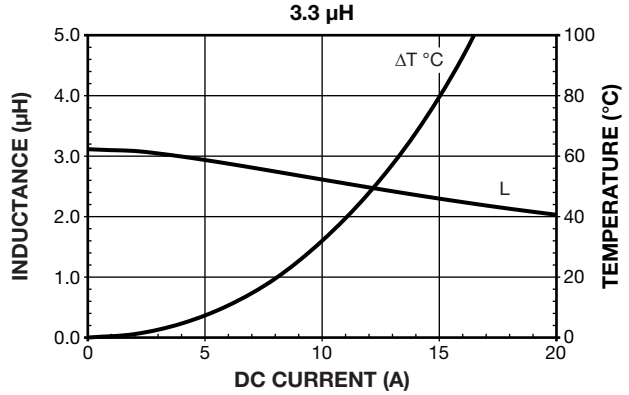
1.5 µH



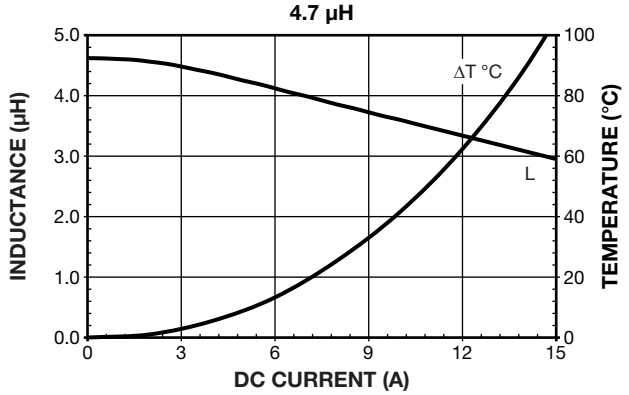
2.2 µH



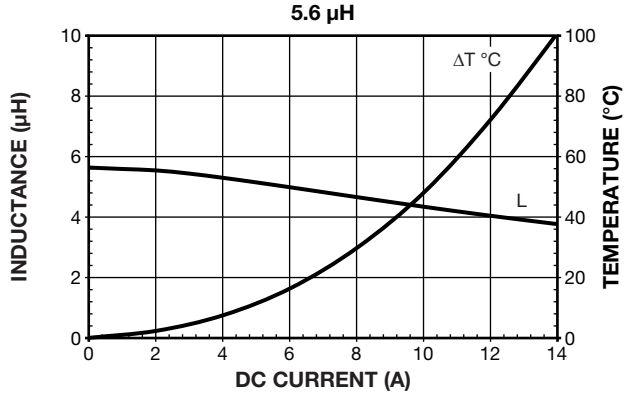
3.3 µH



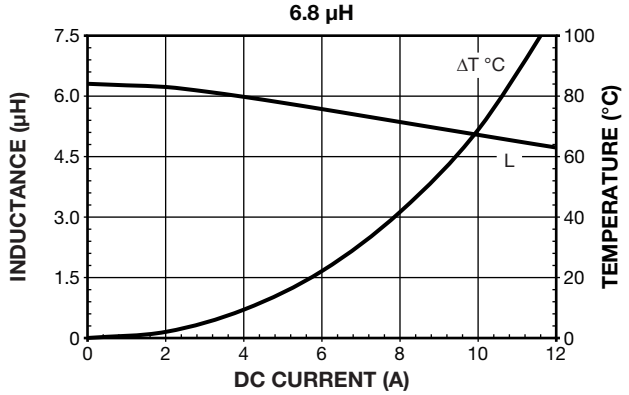
4.7 µH



5.6 µH



6.8 µH



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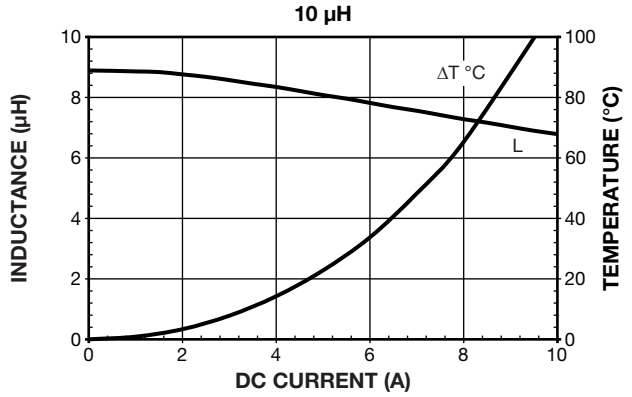

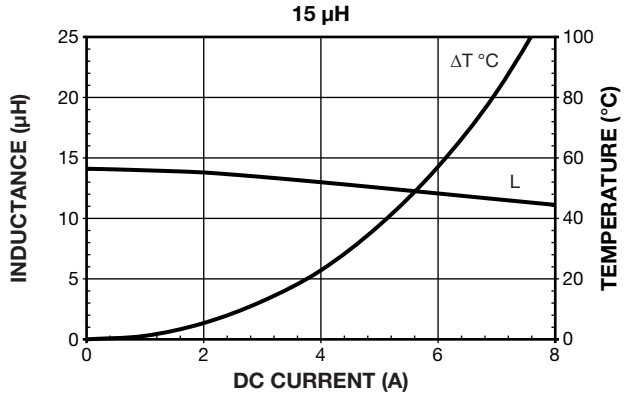

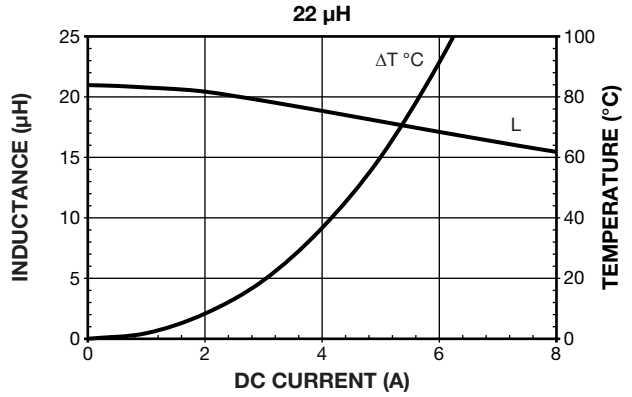

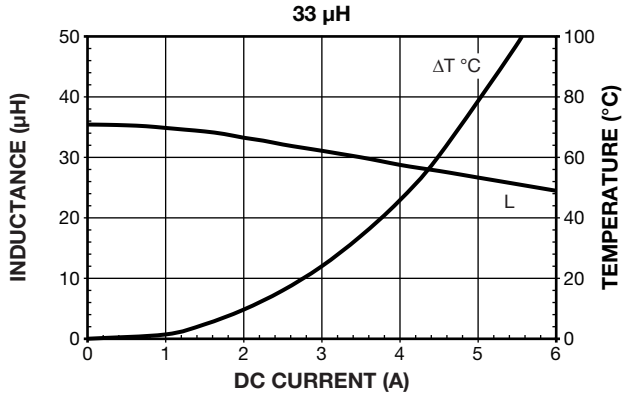

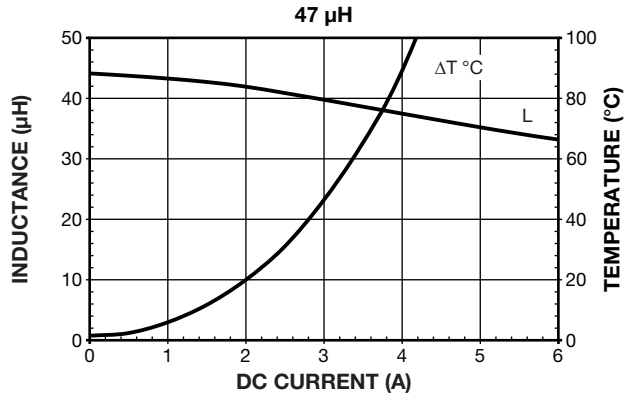

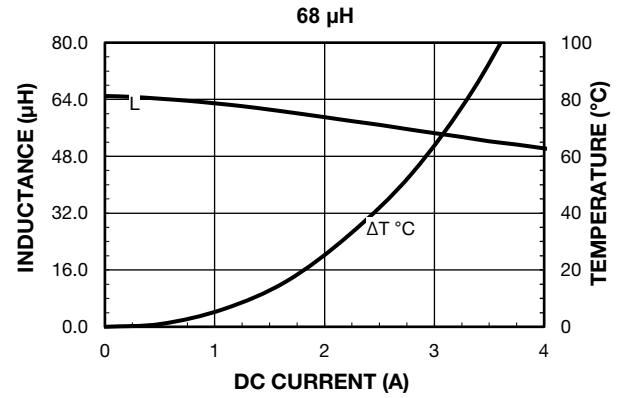

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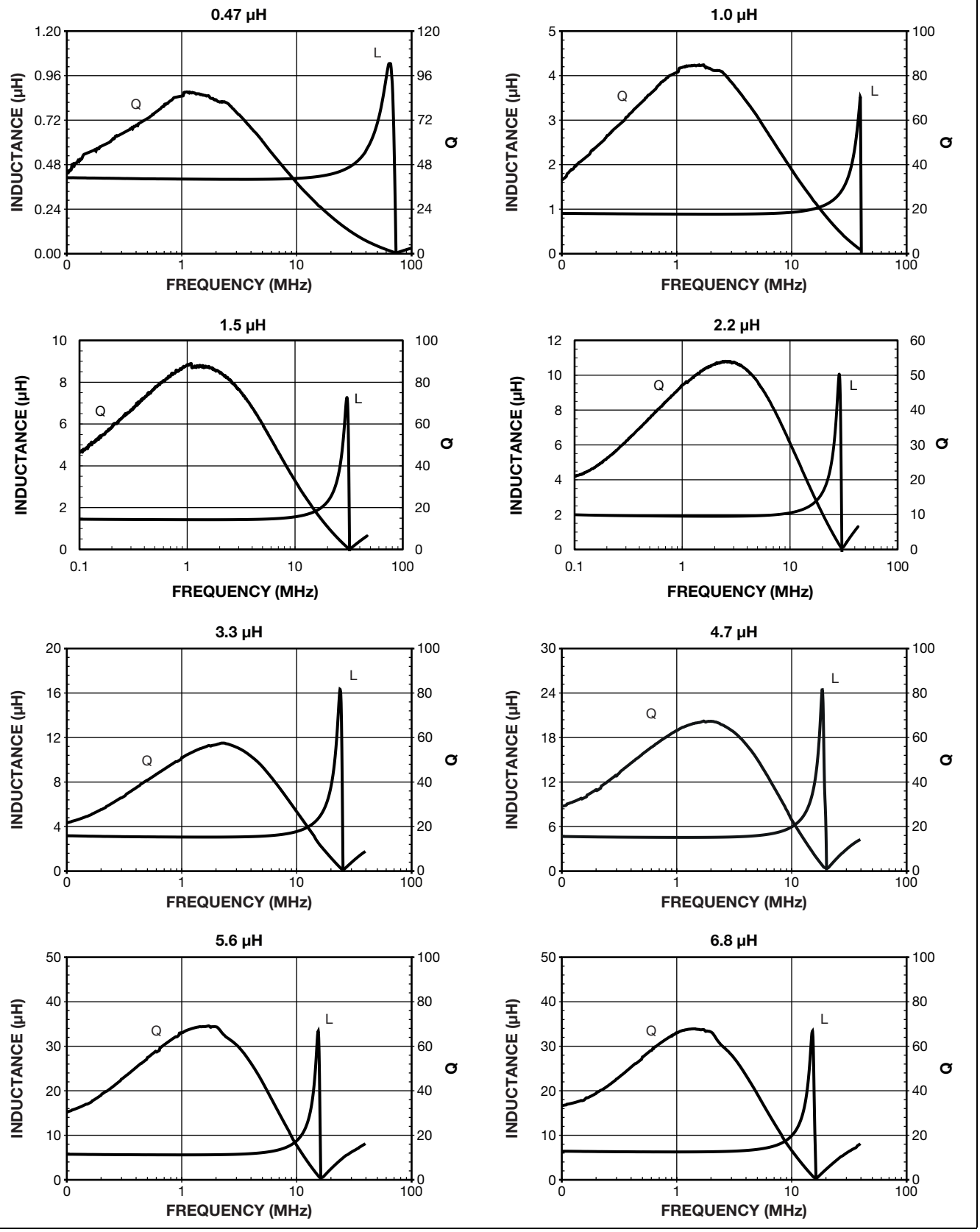
PERFORMANCE GRAPHS: INDUCTANCE AND Q VS. FREQUENCY



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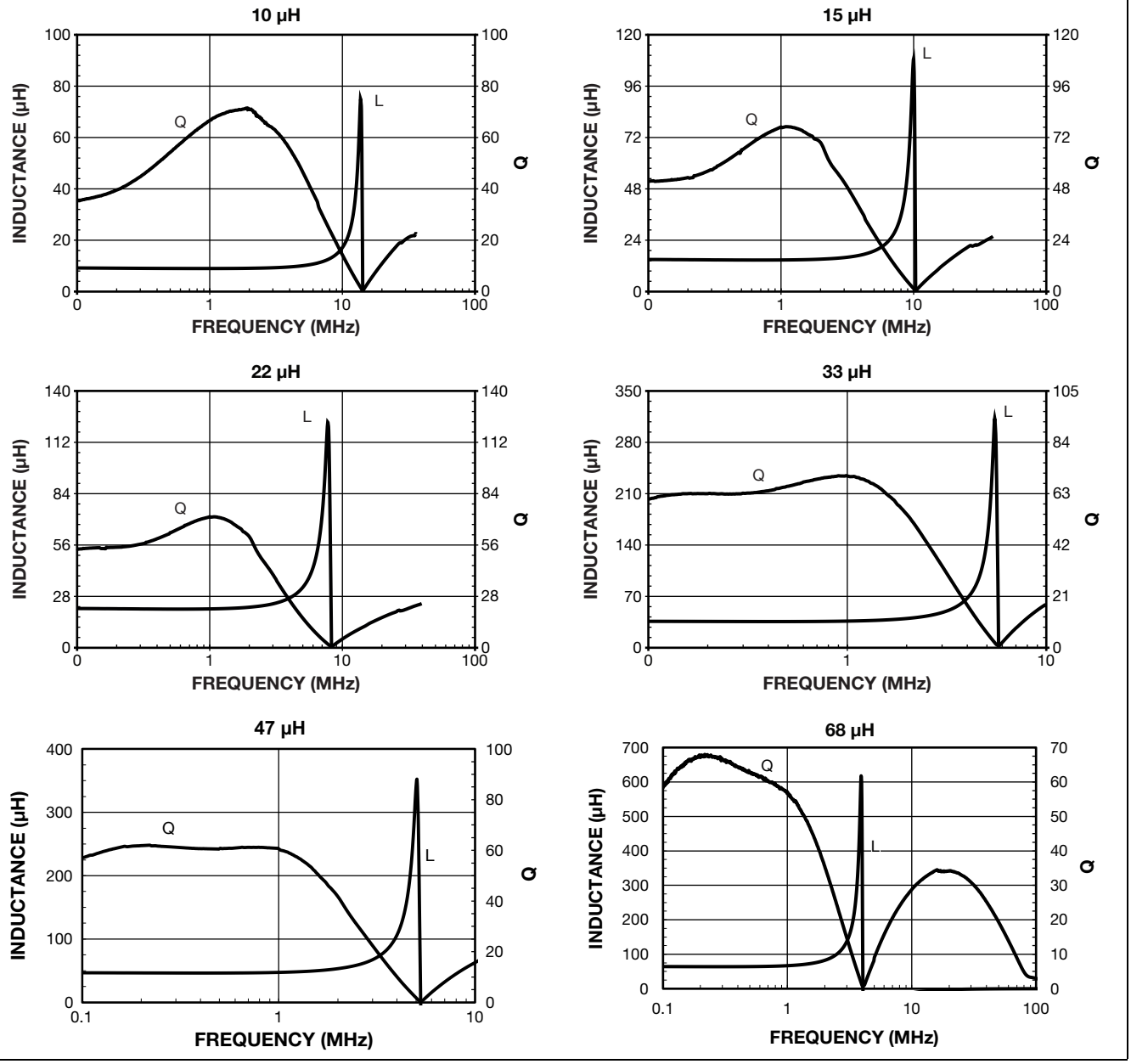

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