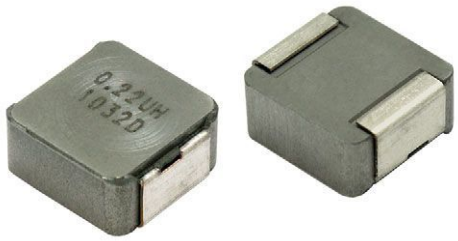
# IHLP® Tin / Lead Inductors, Low DCR Series




## LINKS TO ADDITIONAL RESOURCES

Design Tools

## FEATURES

- Shielded construction
- Excellent DC/DC energy storage up to 1 MHz to 2 MHz. Filter inductor applications up to SRF (see “Standard Electrical Specifications” table)
- Operating temperature up to 125 °C
- Lowest DCR/µH, in this package size
- Handles high transient current spikes without saturation
- Ultra low buzz noise, due to composite construction
- Tin / lead Sn / Pb **plated** (not dipped) terminals
- IHLP design; PATENT(S): www.vishay.com/patents

## APPLICATIONS

- PDA / 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)

## 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) |
|---|---|---|---|---|---|
| 0.22 | 1.26 | 1.35 | 34.0 | 22.0 | 117 |
| 0.33 | 2.01 | 2.15 | 27.5 | 16.0 | 108 |
| 0.47 | 2.35 | 2.50 | 25.0 | 14.0 | 80 |
| 0.68 | 3.01 | 3.22 | 22.2 | 14.5 | 62 |
| 0.82 | 3.63 | 3.88 | 19.5 | 15.0 | 57 |
| 1.0 | 4.33 | 4.63 | 18.2 | 12.0 | 49 |
| 2.2 | 8.8 | 9.41 | 14.5 | 10.2 | 25 |
| 3.3 | 14.0 | 14.9 | 10.5 | 9.7 | 22 |
| 4.7 | 21.1 | 22.6 | 8.0 | 8.7 | 17 |
| 5.6 | 26.7 | 28.6 | 7.4 | 7.6 | 15 |
| 6.8 | 31.2 | 33.4 | 7.0 | 6.7 | 13 |
| 8.2 | 42.1 | 45.0 | 5.7 | 6.6 | 12.6 |
| 10.0 | 48.4 | 51.8 | 5.4 | 6.4 | 12 |
| 15.0 | 61.0 | 65.3 | 4.9 | 3.7 | 10.3 |
| 22.0 | 84.0 | 89.0 | 4.3 | 3.3 | 8.2 |
| 33.0 | 135 | 144 | 3.2 | 3.2 | 6.7 |

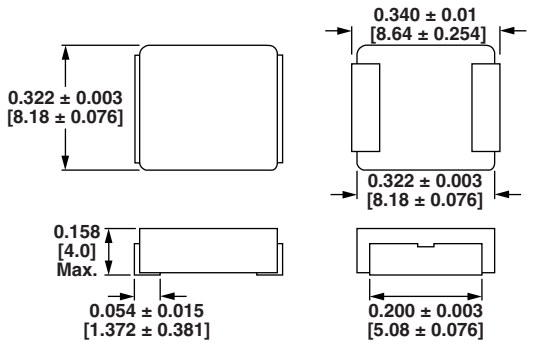
**Notes**

- All test data is referenced to 25 °C ambient
- Operating temperature range -55 °C to +125 °C
- The part temperature (ambient + temp. rise) should not exceed 125 °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) = 50 V

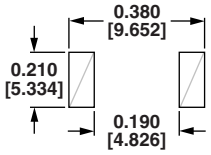
(1) DC current (A) that will cause an approximate ΔT of 40 °C

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

## DIMENSIONS in inches [millimeters]




**Typical Pad Layout**




## DESCRIPTION

| IHLP-3232DZ-1L | 33 µH | ± 20 % | RZ |
|---|---|---|---|
| MODEL | INDUCTANCE VALUE | INDUCTANCE TOLERANCE | PACKAGE CODE |

## GLOBAL PART NUMBER

| I | H | L | P | 3 | 2 | 3 | 2 | D | Z | R | Z | 3 | 3 | 0 | M | 1 | L |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| PRODUCT FAMILY | | | | SIZE | | | | | | PACKAGE CODE | | INDUCTANCE VALUE | | | TOL. | SERIES | |

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

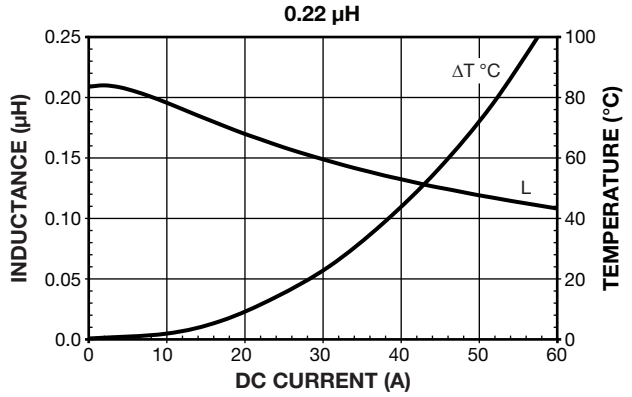
www.vishay.com/patents

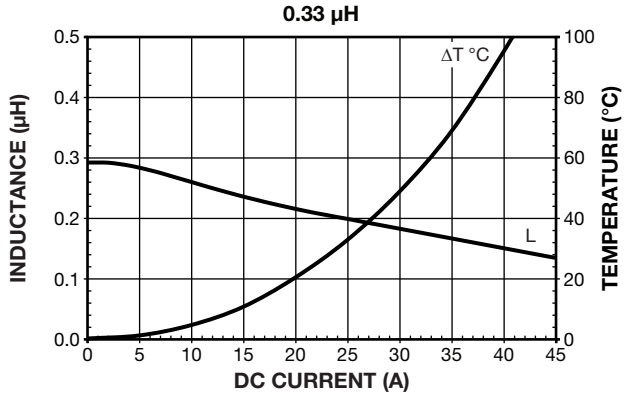


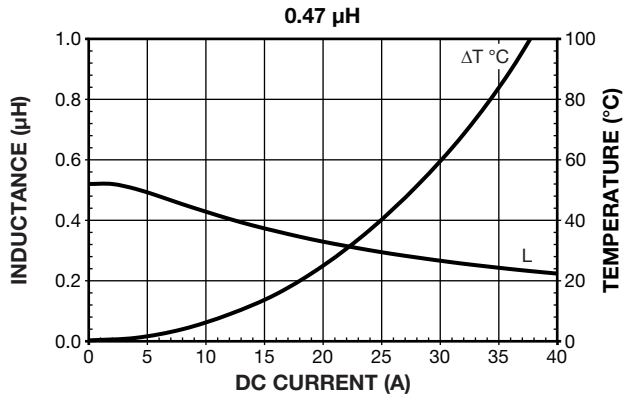
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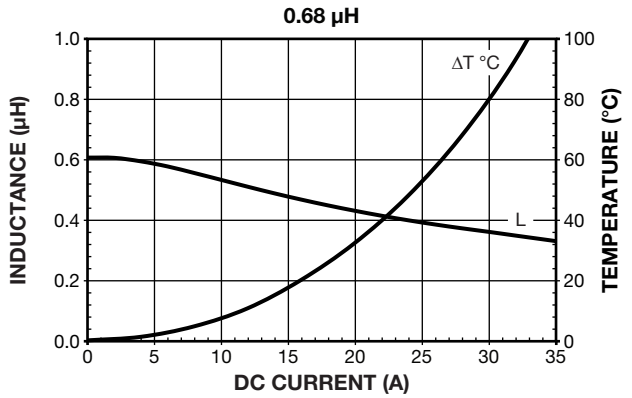
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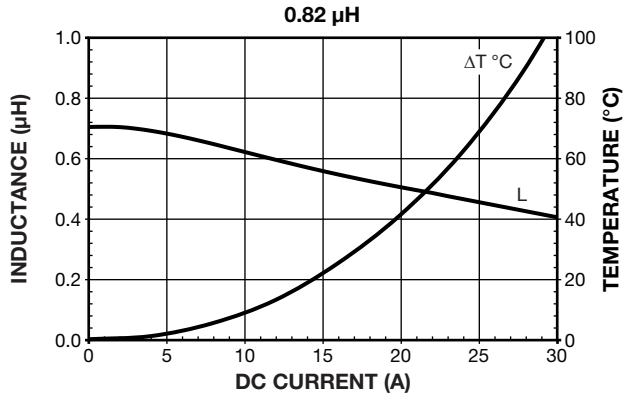
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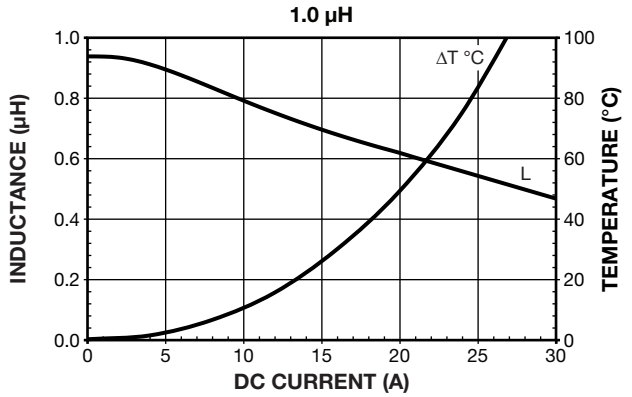


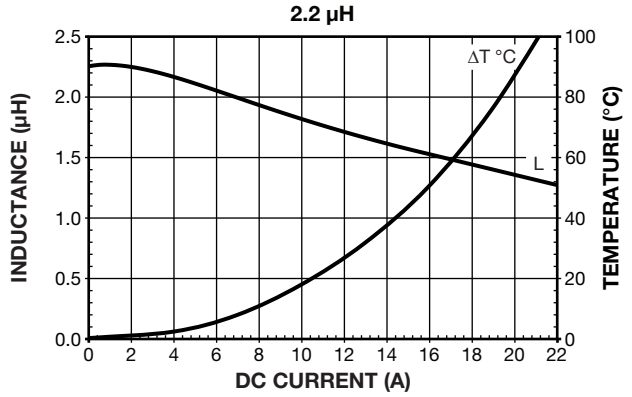



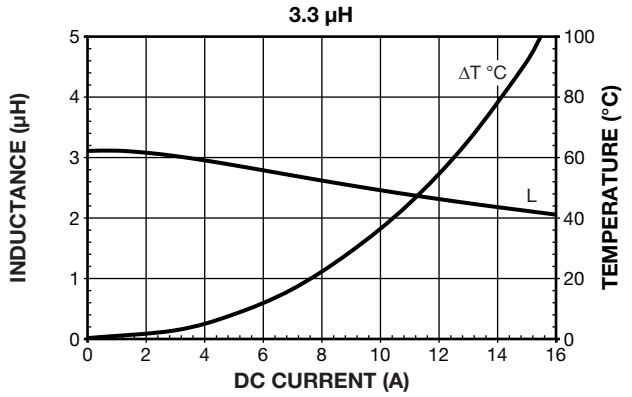



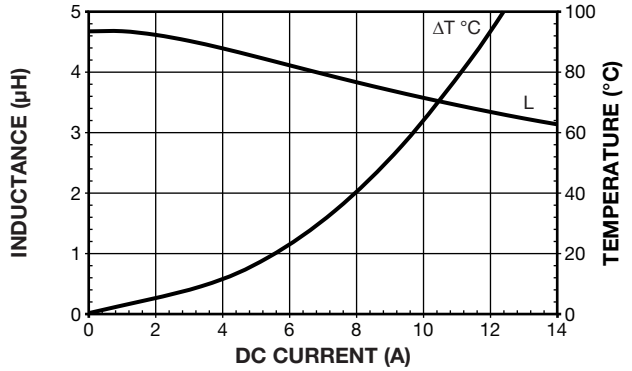



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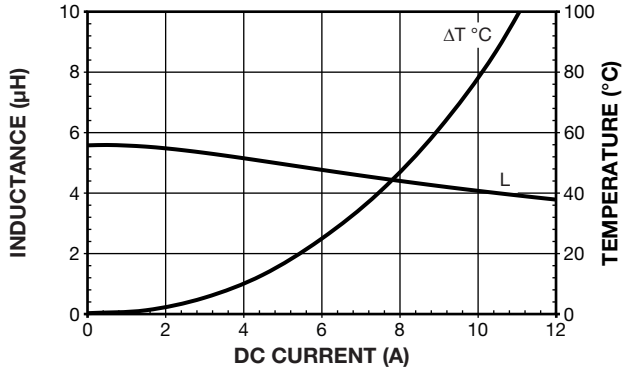
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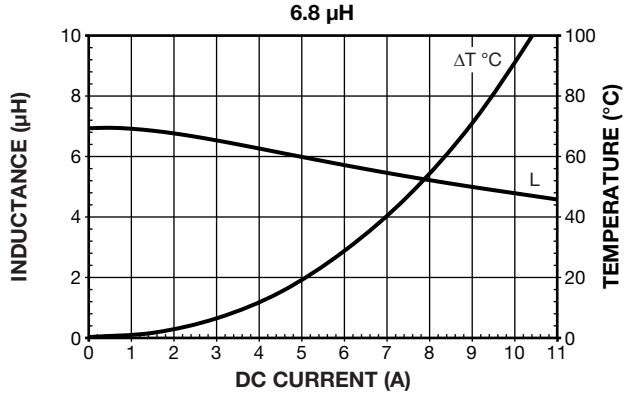
4.7 µH



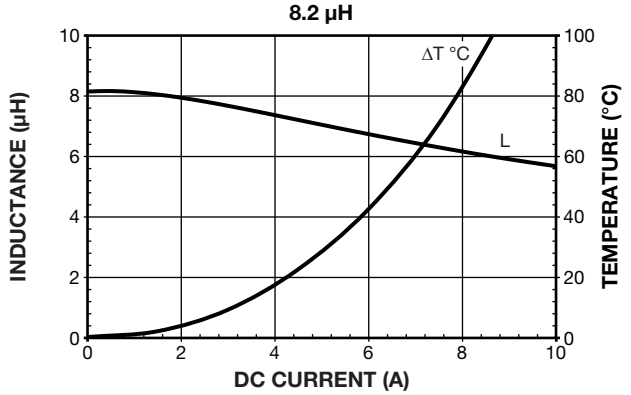

5.6 µH



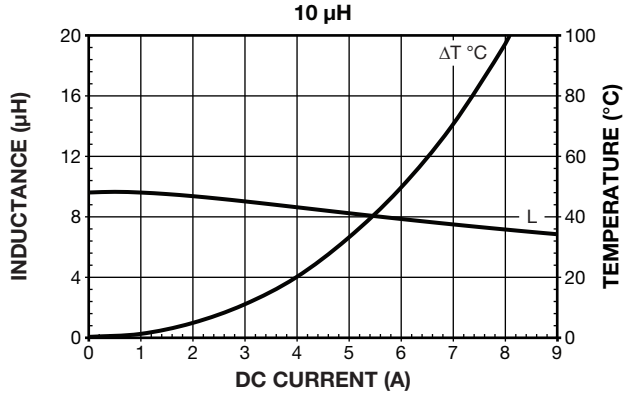

6.8 µH



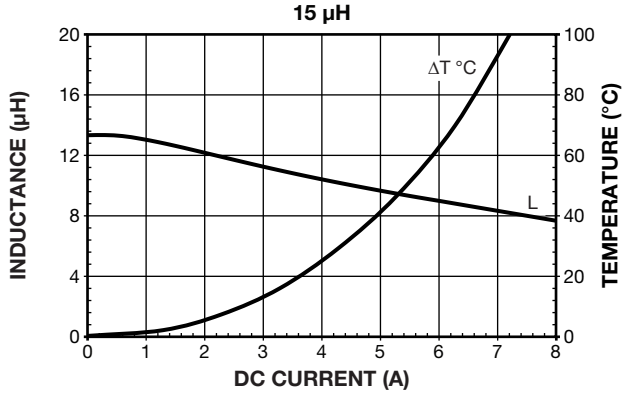

8.2 µH



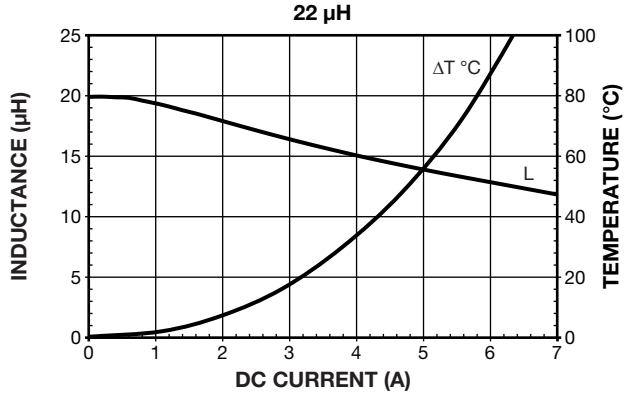

10 µH



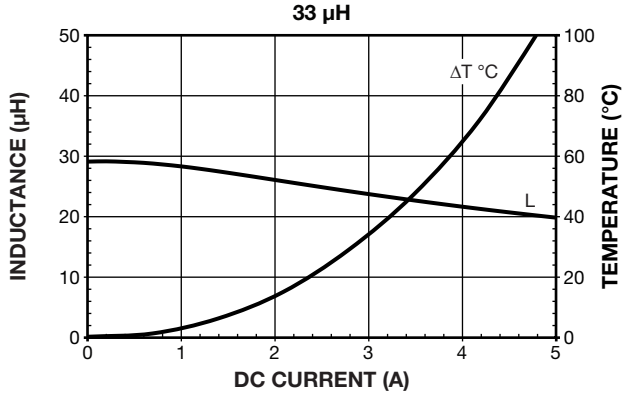

15 µH




22 µH



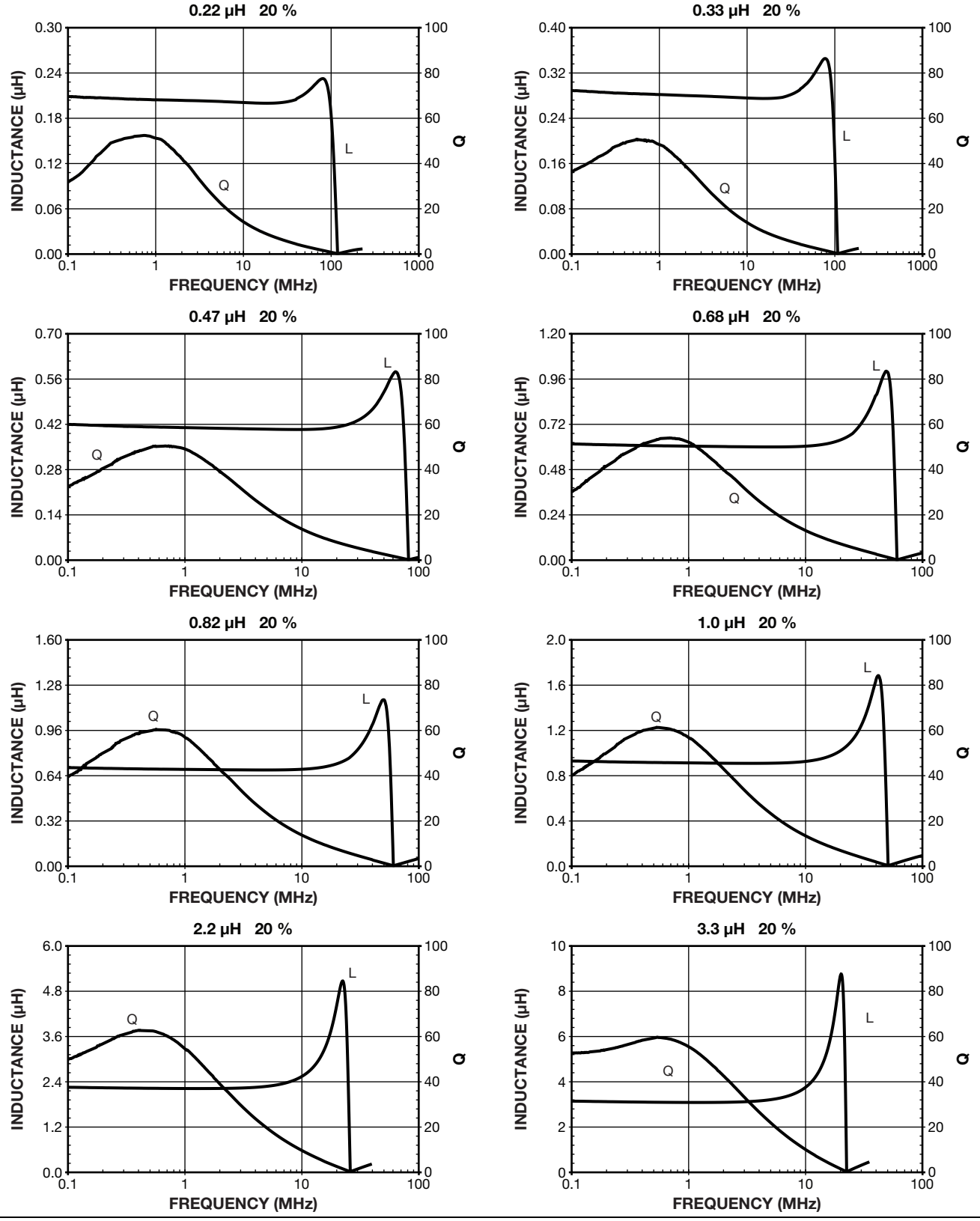

33 µH





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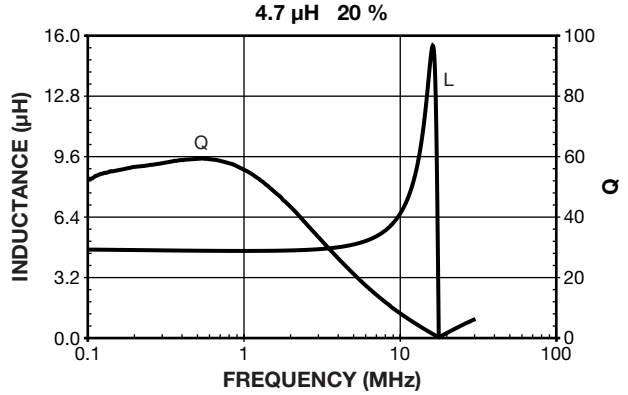



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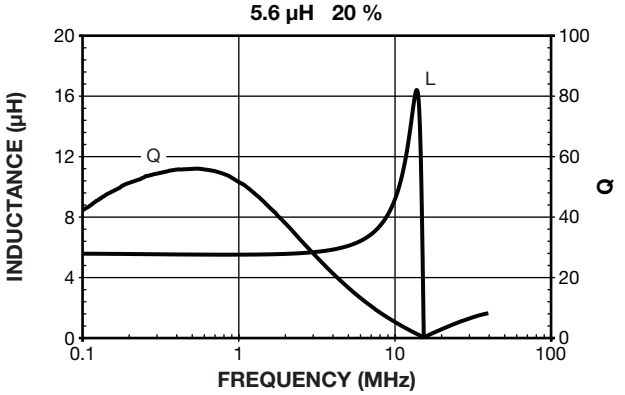
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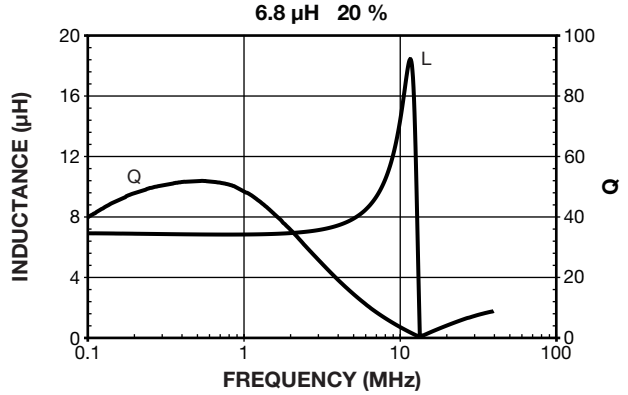
4.7 µH 20 %



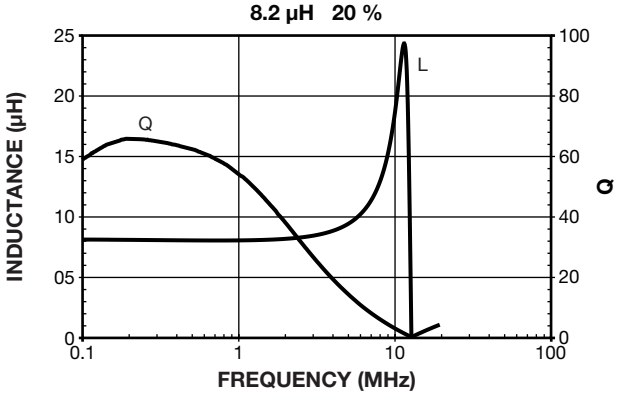

5.6 µH 20 %



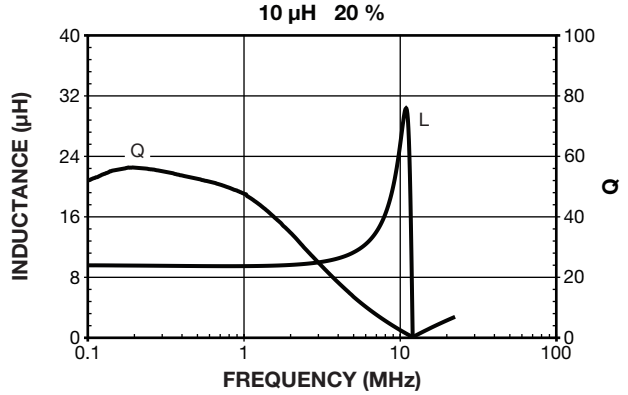

6.8 µH 20 %



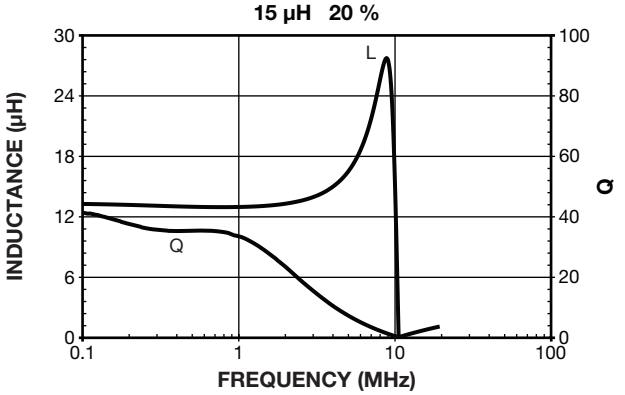

8.2 µH 20 %



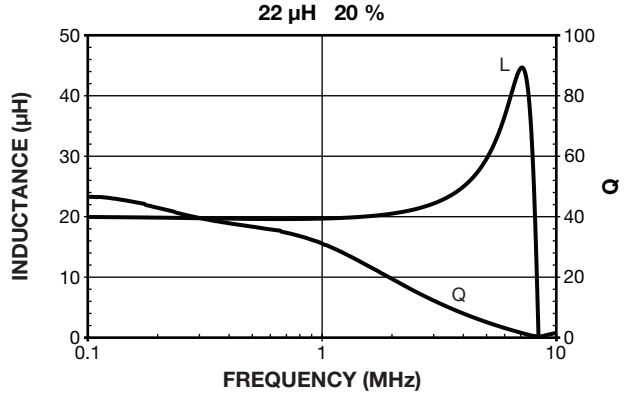

10 µH 20 %



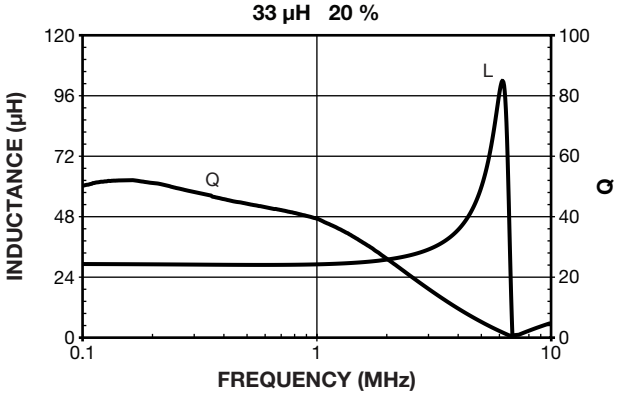

15 µH 20 %




22 µH 20 %




33 µH 20 %






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