# High Current Through-Hole Inductor, High Temperature Series






## FEATURES

- Shielded construction
- High temperature, up to 155 °C
- Excellent DC/DC energy storage up to 2 MHz
- Filter inductor applications up to SRF (see “Standard Electrical Specifications” table)
- Handles high transient current spikes without saturation
- Ultra low buzz noise, due to composite construction
- 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 to 12 V input / output filters
- Diesel injection drivers
- Noise suppression for motors

## 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) | | SATURATION CURRENT DC TYP. (A) | | SRF TYP. (MHz) |
|---|---|---|---|---|---|---|---|---|
| | | | | 40 °C RISE (1) | 80 °C RISE (2) | 20 % DROP (3) | 30 % DROP (4) | |
| IHTH1500TZEB6R8M5A | 6.8 | 1.1 | 1.2 | 63.3 | 85.8 | 75.5 | 106.2 | 8.3 |
| IHTH1500TZEB100M5A | 10 | 1.6 | 1.7 | 52.9 | 72.1 | 59.6 | 85.2 | 5.7 |
| IHTH1500TZEB220M5A | 22 | 3.7 | 3.9 | 34.4 | 45.8 | 44.8 | 59.78 | 3.5 |
| IHTH1500TZEB330M5A | 33 | 4.9 | 5.1 | 28.7 | 39.0 | 39.9 | 56.6 | 2.6 |
| IHTH1500TZEB470M5A | 47 | 8.9 | 9.3 | 20.5 | 27.9 | 32.1 | 45.3 | 1.9 |
| IHTH1500TZEB680M5A | 68 | 11.8 | 12.6 | 17.3 | 23.0 | 27.6 | 39.7 | 1.6 |
| IHTH1500TZEB101M5A | 100 | 21.5 | 22.6 | 12.2 | 16.8 | 23.2 | 33.7 | 1.2 |

**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

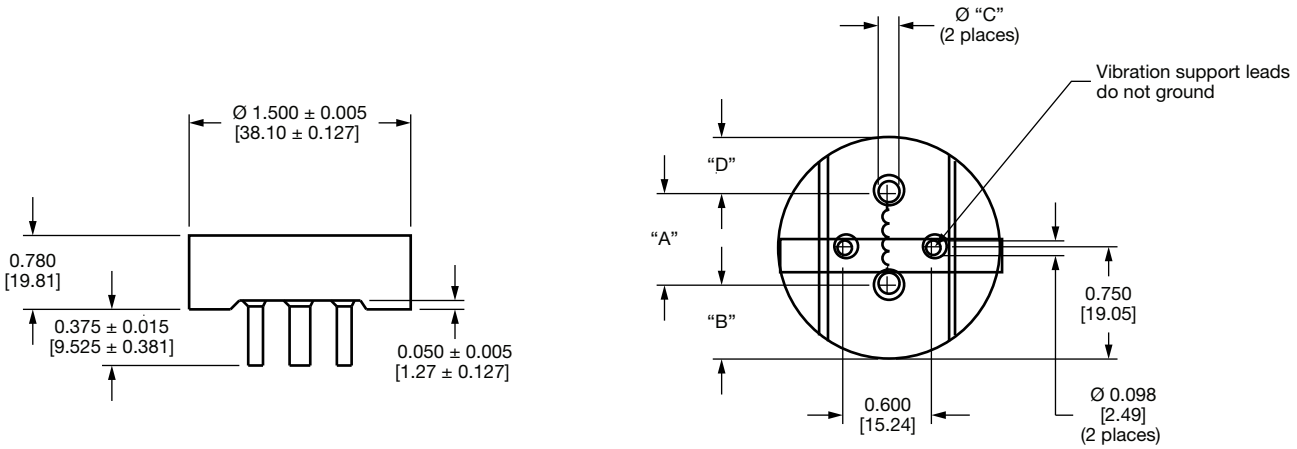
(1) DC current (A) that will cause an approximate ΔT of +40 °C
(2) DC current (A) that will cause an approximate ΔT of +80 °C
(3) DC current (A) that will cause $L_0$ to drop approximately 20 %
(4) DC current (A) that will cause $L_0$ to drop approximately 30 %



For technical questions, contact: magnetics@vishay.com

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## DIMENSIONS in inches [millimeters]




Dimensions are ± 0.010 [0.254] unless otherwise noted

| VALUE | A | B | C | D |
|---|---|---|---|---|
| 6.8 µH | 0.865 [21.97] | 0.367 [9.32] | 0.113 [2.87] | 0.268 [6.81] |
| 10 µH | 0.844 [21.44] | 0.377 [9.58] | 0.113 [2.87] | 0.279 [7.09] |
| 22 µH | 0.981 [24.92] | 0.302 [7.67] | 0.09 [2.29] | 0.217 [5.51] |
| 33 µH | 0.981 [24.92] | 0.302 [7.67] | 0.09 [2.29] | 0.217 [5.51] |
| 47 µH | 1.014 [25.76] | 0.277 [7.04] | 0.073 [1.85] | 0.209 [5.31] |
| 68 µH | 1.014 [25.76] | 0.277 [7.04] | 0.073 [1.85] | 0.209 [5.31] |
| 100 µH | 1.041 [26.44] | 0.257 [6.53] | 0.058 [1.47] | 0.202 [5.13] |

## DESCRIPTION

| | | | | |
|---|---|---|---|---|
| **IHTH-1500TZ-5A** | **6.8 µH** | **± 20 %** | **Bulk Packaging** | **e3** |
| MODEL | INDUCTANCE VALUE | INDUCTANCE VALUE | PACKAGE CODE | JEDEC® LEAD (Pb)-FREE STANDARD |

## GLOBAL PART NUMBER

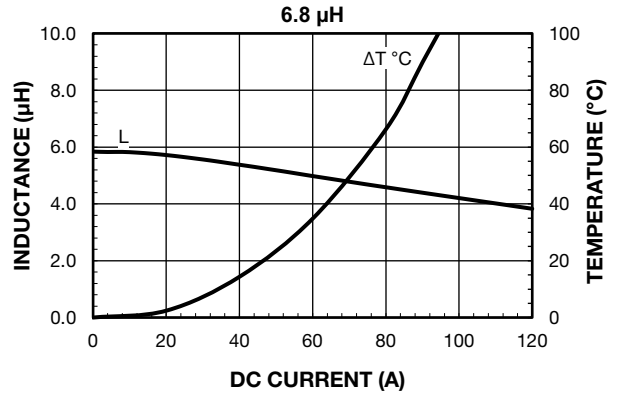
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|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| MODEL | | | | SIZE | | | | | | PACKAGE CODE | | INDUCTANCE VALUE | | | INDUCT. TOL. | SERIES | |

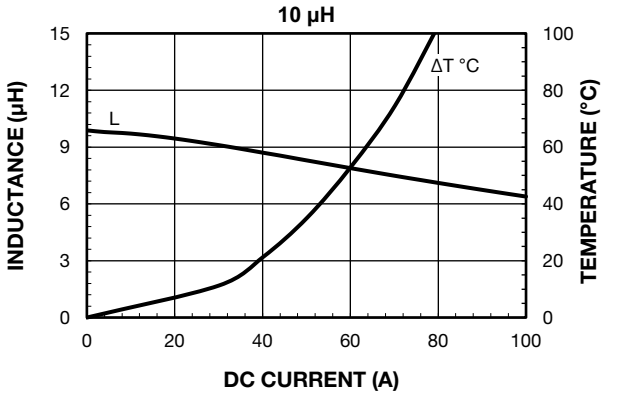


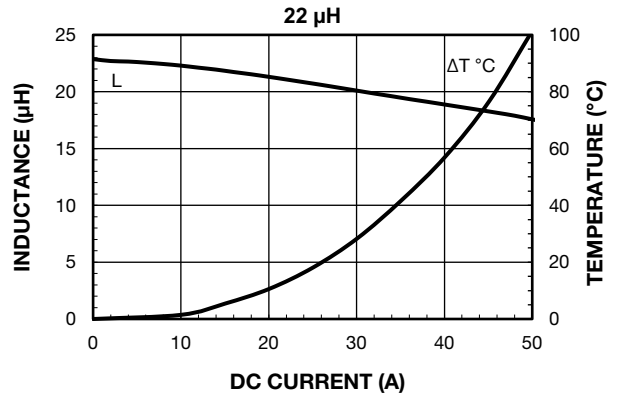
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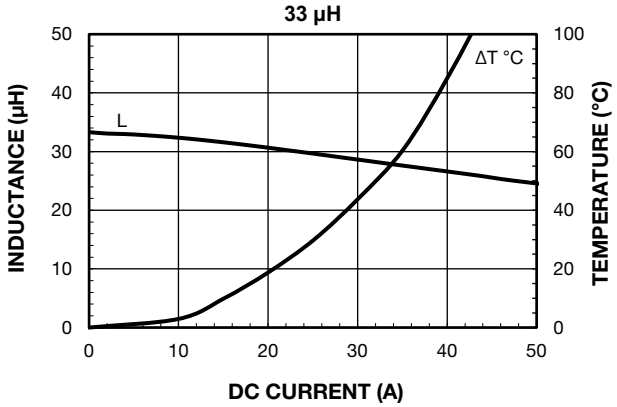
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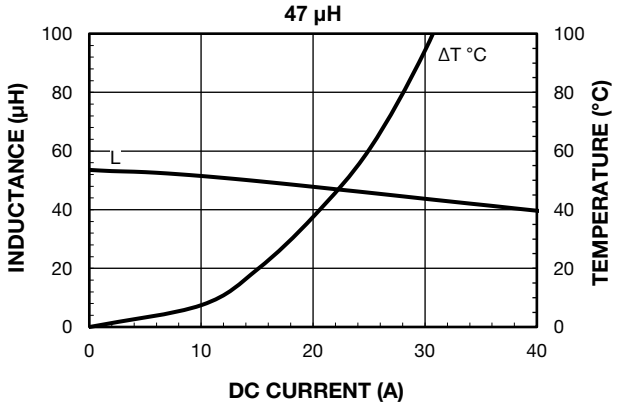
## PERFORMANCE GRAPHS

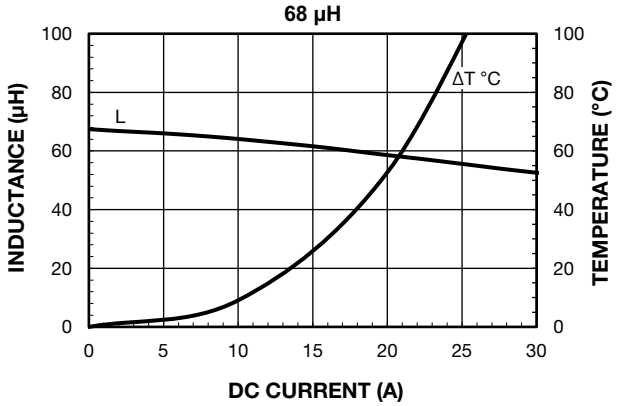


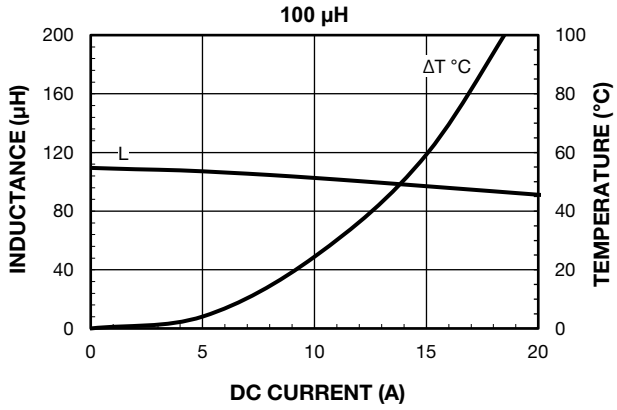



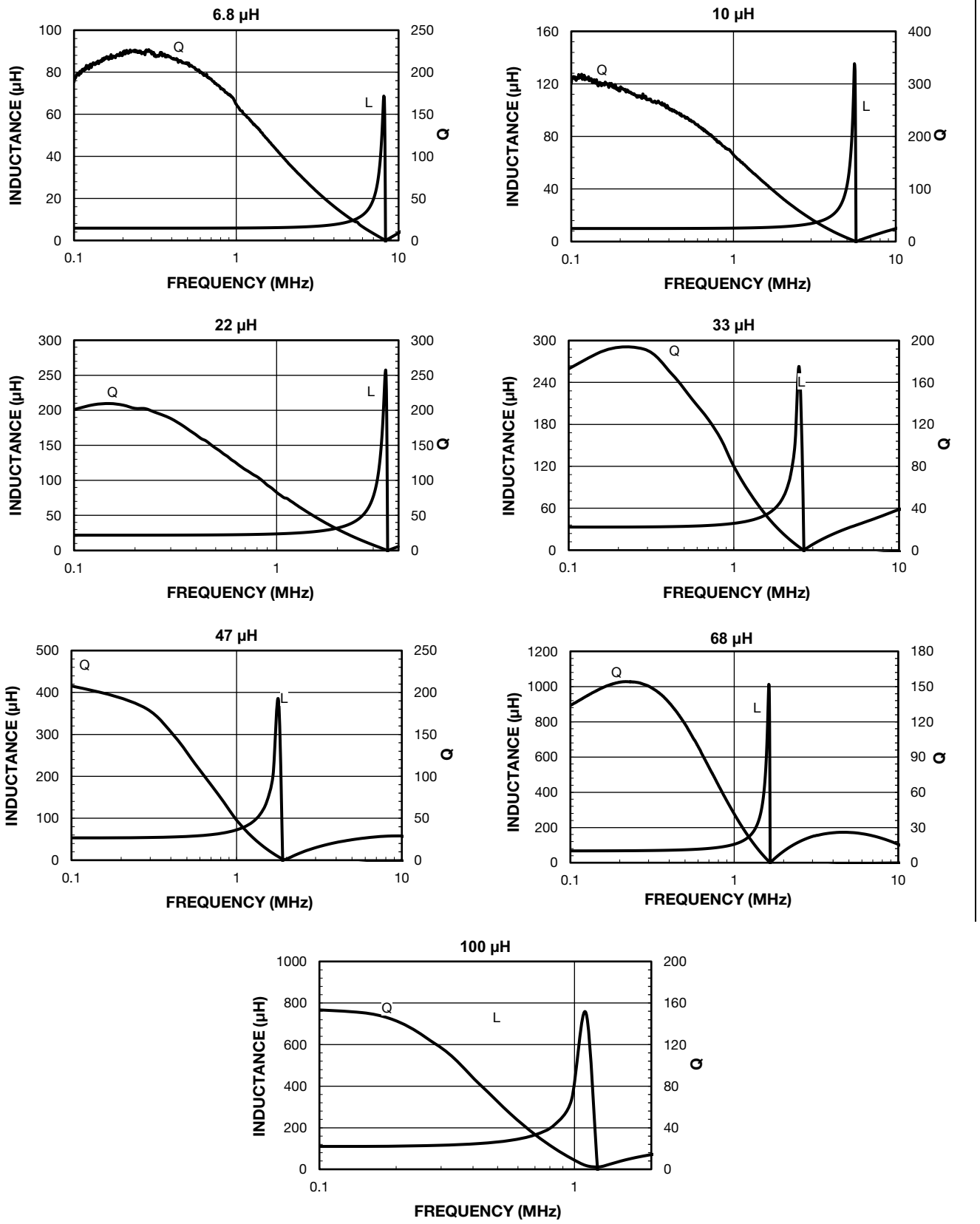






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