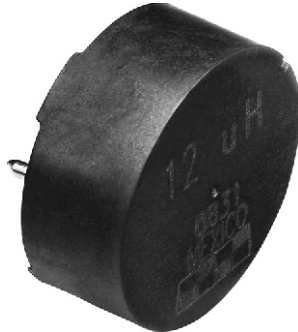


## High Current Through Hole Inductor, High Temperature Series



Manufactured under one or more of the following:  
**US Patents; 6,198,375/6,204,744/6,449,829/6,460,244.**  
 Several foreign patents, and other patents pending.



### FEATURES

- Shielded construction
- Frequency range up to 1.0 MHz
- Handles high transient current spikes without saturation
- Ultra low buzz noise, due to composite construction
- Compliant to RoHS Directive 2002/95/EC

### APPLICATIONS

- Desktop/server applications
- High current POL converters
- Line filters
- Motor control systems
- DC/DC converters in distributed power systems
- DC/DC converter for Field Programmable Gate Array (FPGA)

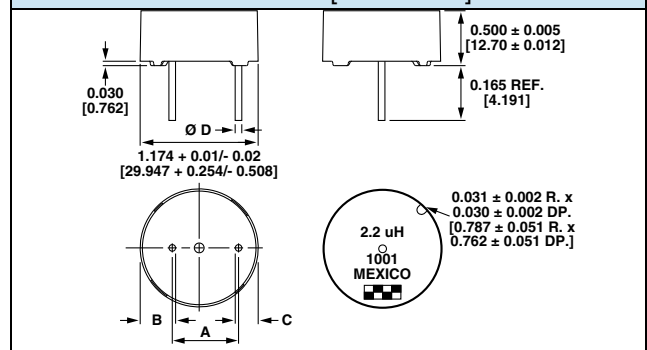
### STANDARD ELECTRICAL SPECIFICATIONS

| $L_0$<br>INDUCTANCE<br>$\pm 20\%$ AT 100<br>kHz,<br>0.25 V, 0 A<br>( $\mu\text{H}$ ) | DCR<br>TYP.<br>25 °C<br>(m $\Omega$ ) | DCR<br>MAX.<br>25 °C<br>(m $\Omega$ ) | HEAT<br>RATING<br>CURRENT<br>DC TYP.<br>(A) <sup>(3)</sup> | SATURATION<br>CURRENT<br>DC TYP.<br>(A) <sup>(4)</sup> |
|--|---------------------------------------|---------------------------------------|--|--|
| 0.47   | 0.26                                  | 0.3                                   | 105.0  | 80.0   |
| 1.0  | 0.43                                  | 0.48                                  | 86.0   | 69.0   |
| 2.2  | 0.70                                  | 0.77                                  | 71.5   | 64.0   |
| 4.7  | 1.65                                  | 2.00                                  | 44.5   | 62.0   |
| 6.8  | 1.81                                  | 2.10                                  | 42.0   | 52.0   |
| 8.2  | 2.82                                  | 3.00                                  | 33.5   | 36.0   |
| 10   | 3.20                                  | 3.64                                  | 32.0   | 32.0   |
| 22   | 6.39                                  | 6.83                                  | 21.0   | 23.0   |
| 33   | 10.2                                  | 11.0                                  | 16.8   | 22.0   |
| 47   | 13.2                                  | 15.3                                  | 14.7   | 16.0   |
| 68   | 25.6                                  | 27.4                                  | 11.2   | 9.1  |
| 100  | 30.7                                  | 32.2                                  | 9.2  | 11.0   |

#### Notes

- (1) All test data is referenced to 25 °C ambient
- (2) Operating temperature range - 55 °C to + 155 °C
- (3) DC current (A) that will cause an approximate  $\Delta T$  of 40 °C
- (4) DC current (A) that will cause  $L_0$  to drop approximately 20 %
- (5) 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.

### DIMENSIONS in inches [millimeters]



| VALUE             | A $\pm 0.010$<br>[ $\pm 0.254$ ] | B $\pm 0.020$<br>[ $\pm 0.508$ ] | C $\pm 0.020$<br>[ $\pm 0.508$ ] | D $\pm 0.005$<br>[ $\pm 0.127$ ] |
|-------------------|----------------------------------|----------------------------------|----------------------------------|----------------------------------|
| 1.0 $\mu\text{H}$ | 0.574 [14.580]                   | 0.407 [10.338]                   | 0.303 [7.696]                    | 0.100 [2.540]                    |
| 2.2 $\mu\text{H}$ | 0.684 [17.373]                   | 0.355 [9.017]                    | 0.250 [6.350]                    | 0.100 [2.540]                    |
| 4.7 $\mu\text{H}$ | 0.833 [21.158]                   | 0.264 [6.706]                    | 0.172 [4.369]                    | 0.079 [2.007]                    |
| 6.8 $\mu\text{H}$ | 0.723 [18.364]                   | 0.315 [8.001]                    | 0.228 [5.791]                    | 0.079 [2.007]                    |
| 8.2 $\mu\text{H}$ | 0.703 [17.856]                   | 0.390 [9.906]                    | 0.163 [4.140]                    | 0.071 [1.803]                    |
| 10 $\mu\text{H}$  | 0.703 [17.856]                   | 0.390 [9.906]                    | 0.163 [4.140]                    | 0.071 [1.803]                    |
| 22 $\mu\text{H}$  | 0.696 [17.678]                   | 0.379 [9.627]                    | 0.175 [4.445]                    | 0.063 [1.600]                    |
| 33 $\mu\text{H}$  | 0.762 [19.355]                   | 0.334 [8.484]                    | 0.150 [3.810]                    | 0.056 [1.422]                    |
| 47 $\mu\text{H}$  | 0.762 [19.355]                   | 0.334 [8.484]                    | 0.150 [3.810]                    | 0.056 [1.422]                    |
| 68 $\mu\text{H}$  | 0.657 [16.688]                   | 0.406 [10.312]                   | 0.164 [4.166]                    | 0.044 [1.118]                    |
| 100 $\mu\text{H}$ | 0.657 [16.688]                   | 0.406 [10.312]                   | 0.164 [4.166]                    | 0.044 [1.118]                    |

### DESCRIPTION

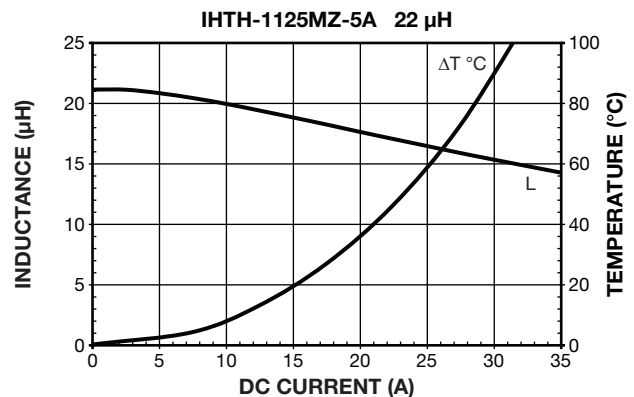
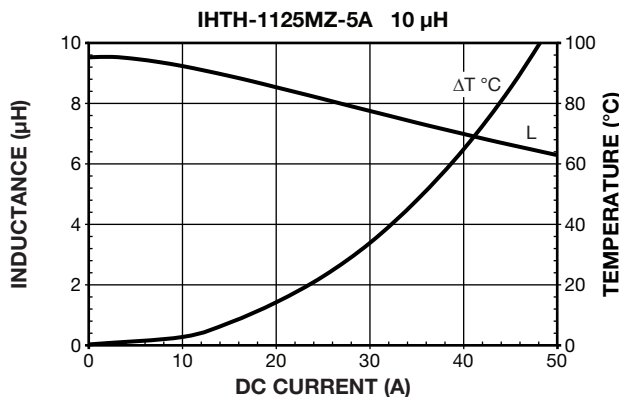
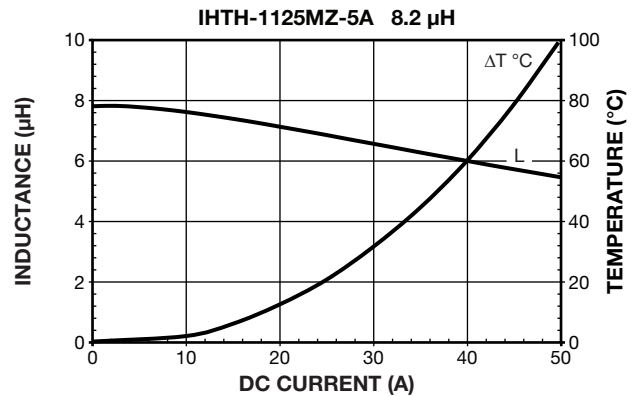
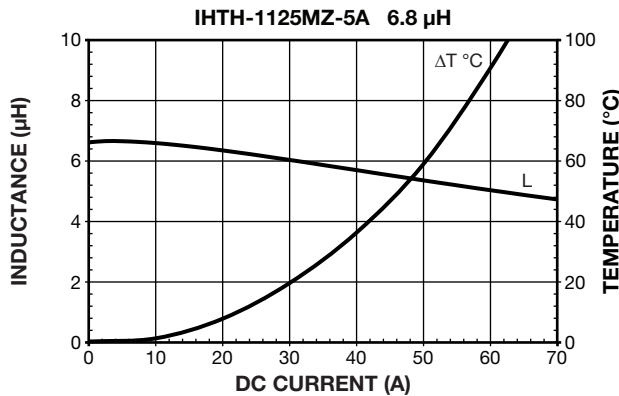
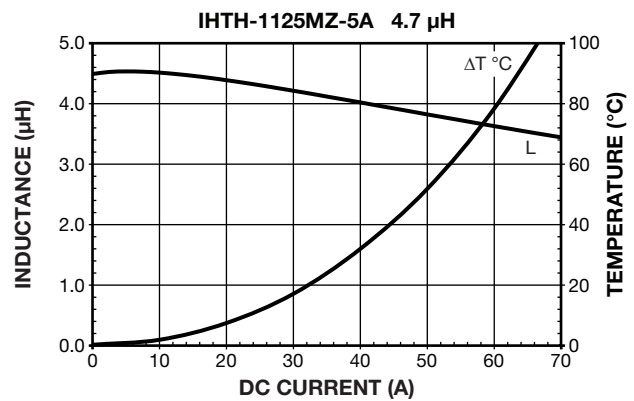
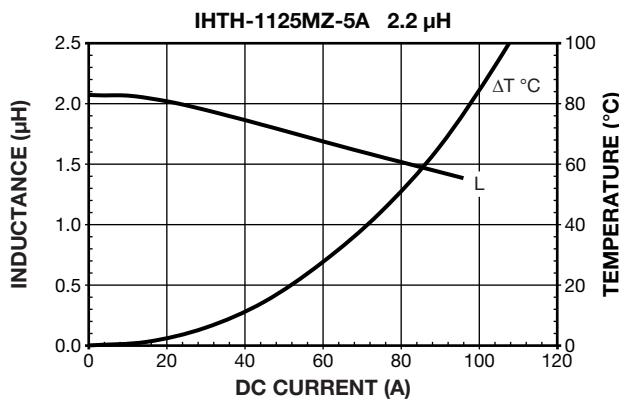
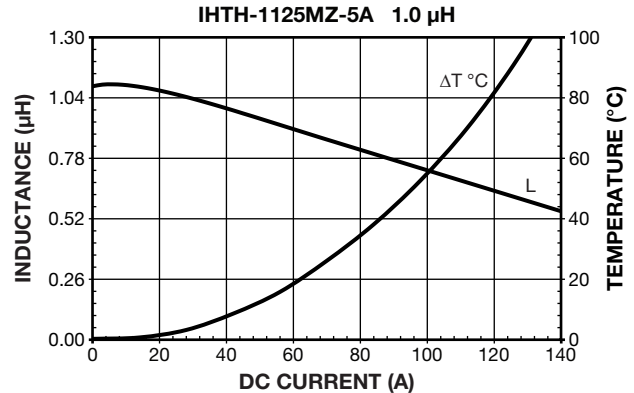
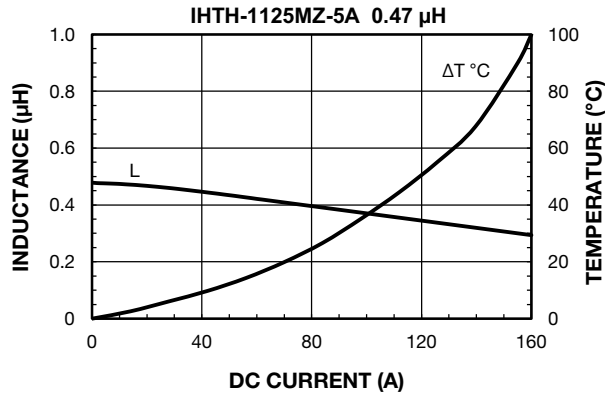
|                         |                                       |                                    |
|-------------------------|---------------------------------------|------------------------------------|
| IHTH-1125MZ-5A<br>MODEL | 4.7 $\mu\text{H}$<br>INDUCTANCE VALUE | $\pm 20\%$<br>INDUCTANCE TOLERANCE |
|-------------------------|---------------------------------------|------------------------------------|

### GLOBAL PART NUMBER

|       |   |   |   |      |   |   |   |              |   |                  |   |   |              |        |   |   |   |
|-------|---|---|---|------|---|---|---|--------------|---|------------------|---|---|--------------|--------|---|---|---|
| I     | H | T | H | 1    | 1 | 2 | 5 | M            | Z | E                | B | 4 | R            | 7      | M | 5 | A |
| MODEL |   |   |   | SIZE |   |   |   | PACKAGE CODE |   | INDUCTANCE VALUE |   |   | INDUCT. TOL. | SERIES |   |   |   |

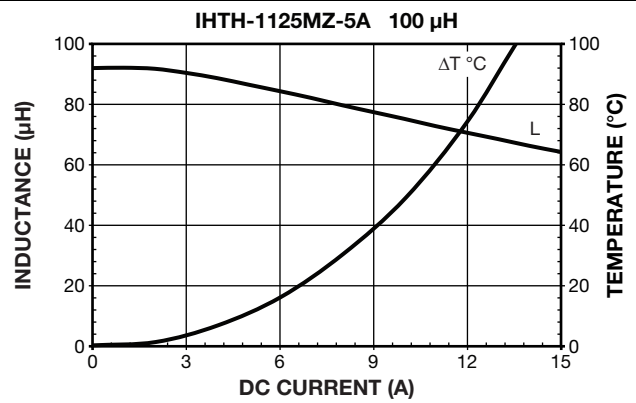
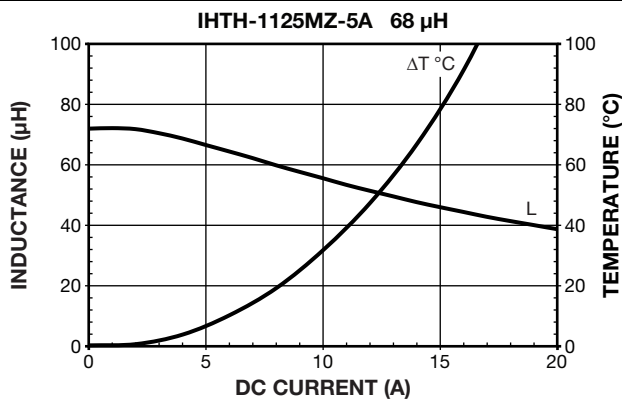
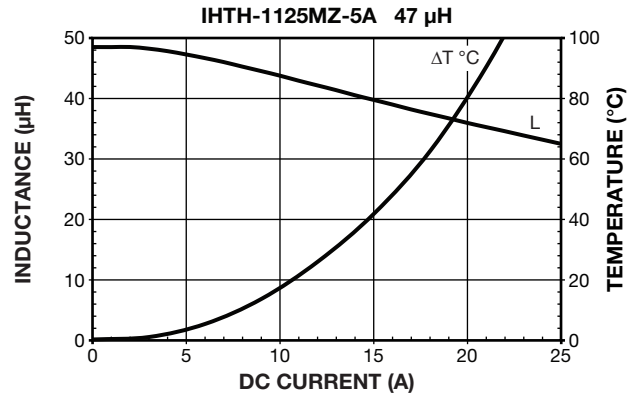
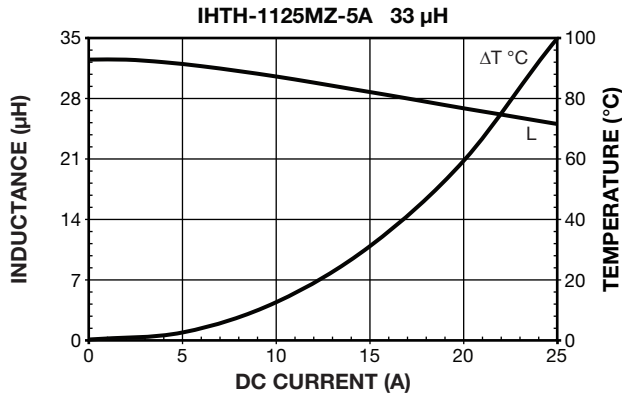


## PERFORMANCE GRAPHS





## PERFORMANCE GRAPHS





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