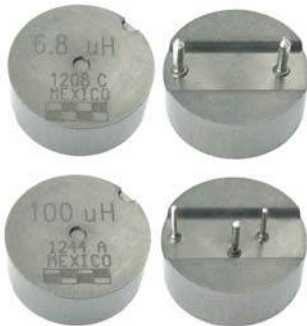


## High Current Through Hole Inductor, High Temperature Series



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.

| STANDARD ELECTRICAL SPECIFICATIONS   |                                       |                                       |  |  |                      |
|--|---------------------------------------|---------------------------------------|--|--|----------------------|
| $L_0$<br>INDUCTANCE<br>$\pm 20\%$<br>AT 100 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> | SRF<br>TYP.<br>(MHz) |
| 0.47   | 0.47                                  | 0.52                                  | 83.0   | 44.0   | 67.00                |
| 1.0  | 0.87                                  | 0.92                                  | 66.0   | 44.0   | 35.70                |
| 2.2  | 1.51                                  | 1.63                                  | 45.0   | 38.0   | 17.85                |
| 3.3  | 2.28                                  | 2.40                                  | 40.0   | 33.0   | 16.70                |
| 4.7  | 2.85                                  | 3.00                                  | 30.0   | 26.0   | 13.22                |
| 6.8  | 3.97                                  | 4.18                                  | 24.5   | 22.0   | 9.50                 |
| 8.2  | 5.7                                   | 6.14                                  | 20.0   | 14.5   | 11.60                |
| 10   | 7.32                                  | 7.70                                  | 17.7   | 13.0   | 9.77                 |
| 22   | 12.56                                 | 13.22                                 | 12.7   | 11.5   | 6.42                 |
| 33   | 22.61                                 | 23.80                                 | 9.5  | 10.0   | 4.58                 |
| 47   | 35.34                                 | 37.20                                 | 6.8  | 6.5  | 4.28                 |
| 68   | 46.47                                 | 48.92                                 | 6.2  | 6.2  | 2.74                 |
| 82   | 55.20                                 | 58.10                                 | 5.2  | 6.0  | 3.09                 |
| 100  | 60.80                                 | 64.00                                 | 5.0  | 5.2  | 2.63                 |

**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.

**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)
- Handles high transient current spikes without saturation
- Ultra low buzz noise, due to composite construction
- High Temperature, up to 155 °C
- AEC-Q200 qualified
- Material categorization:  
for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)

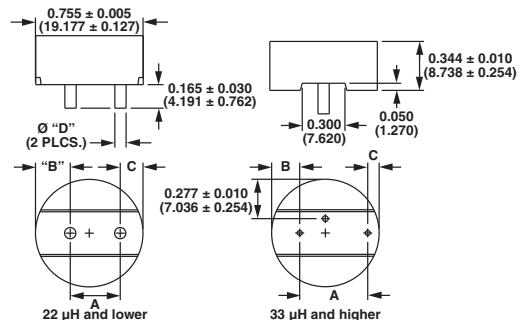
 AUTOMOTIVE  
GRADE

**RoHS**  
COMPLIANT

 HALOGEN  
**FREE**
**GREEN**  
(5-2008)

**APPLICATIONS**

- Engine and transmission control units
- Diesel injection drivers
- DC/DC converters for entertainment/navigation systems
- Noise suppression for motors
  - Windshield wipers
  - Power seats
  - Power mirrors
  - Heating and ventilation blowers
  - HID lighting
- LED drivers

**DIMENSIONS** in inches (millimeters)


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

**DESCRIPTION**

 IHTH-0750IZ-5A  
MODEL

 1.0  $\mu\text{H}$   
INDUCTANCE VALUE

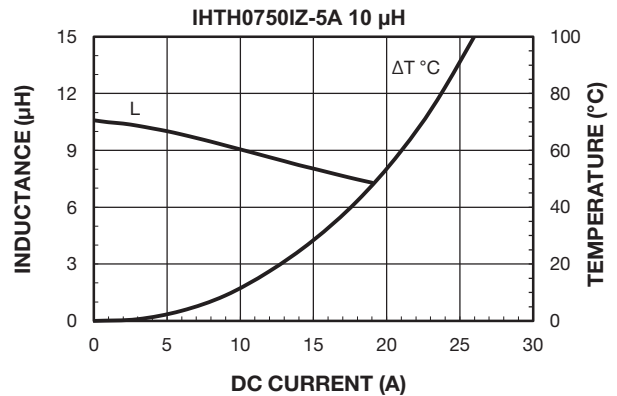
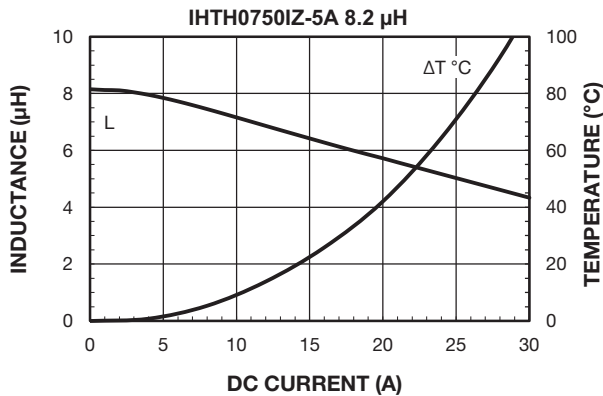
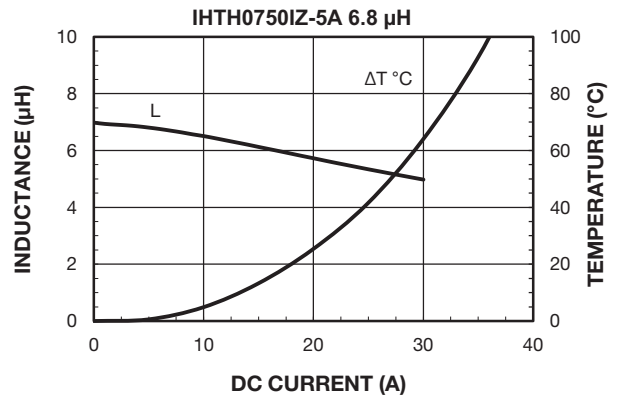
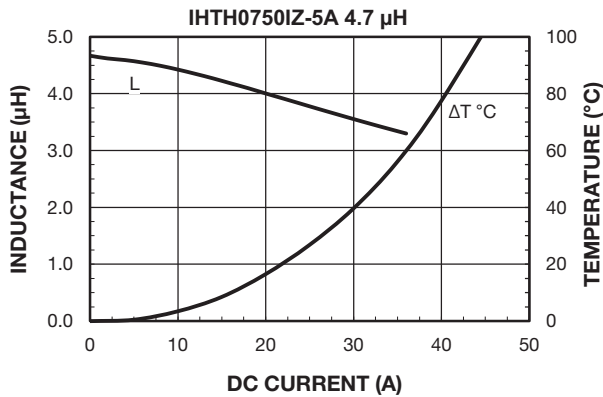
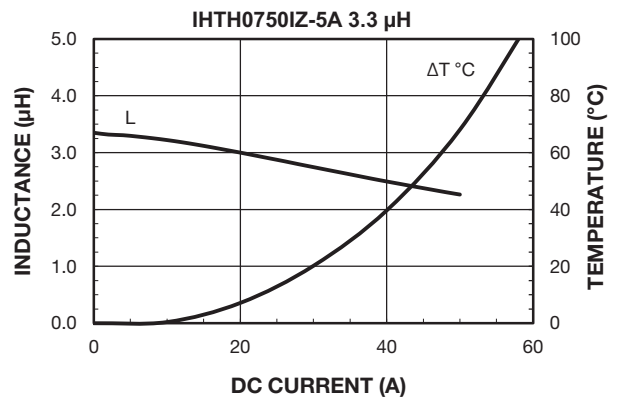
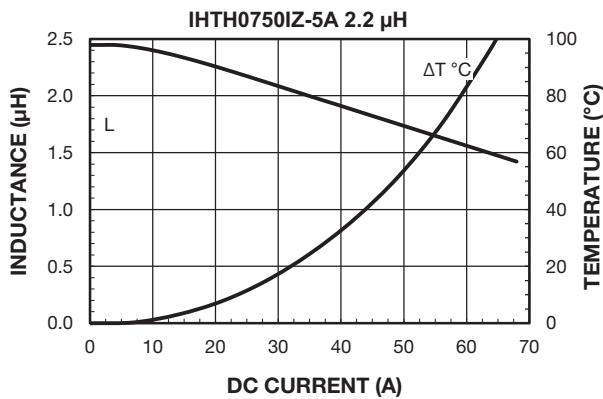
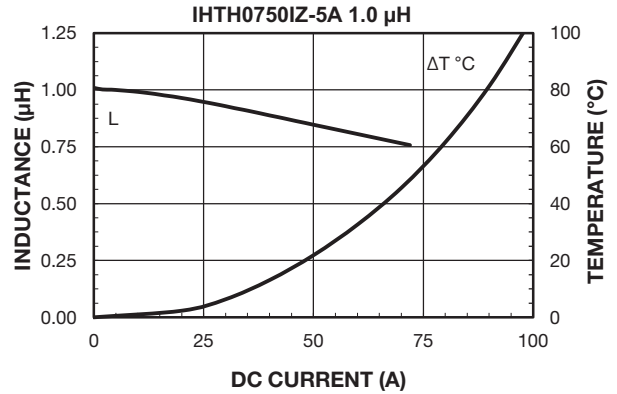
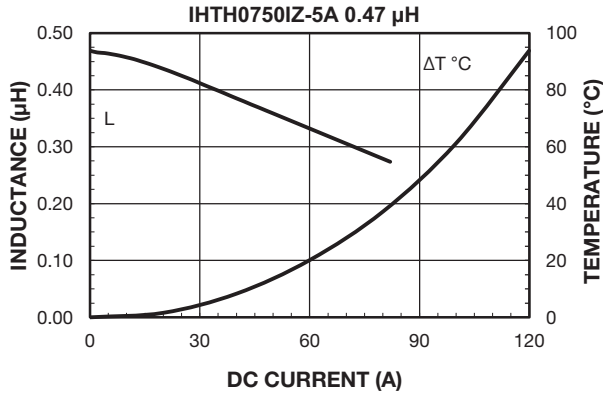
 $\pm 20\%$   
INDUCTANCE TOLERANCE

**GLOBAL PART NUMBER**

|       |   |   |   |      |   |   |   |              |   |                  |   |              |   |        |   |   |   |
|-------|---|---|---|------|---|---|---|--------------|---|------------------|---|--------------|---|--------|---|---|---|
| I     | H | T | H | 0    | 7 | 5 | 0 | I            | Z | E                | B | 1            | R | 0      | M | 5 | A |
| MODEL |   |   |   | SIZE |   |   |   | PACKAGE CODE |   | INDUCTANCE VALUE |   | INDUCT. TOL. |   | SERIES |   |   |   |

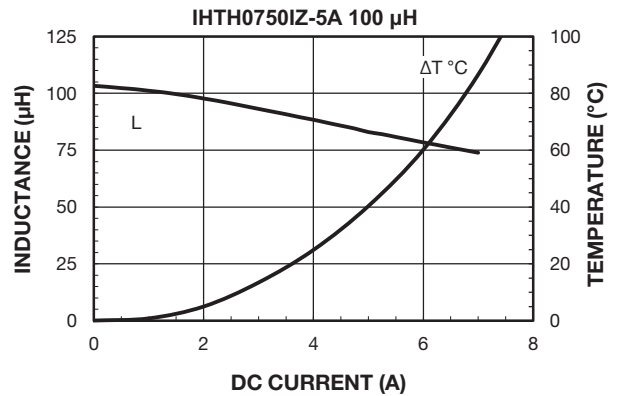
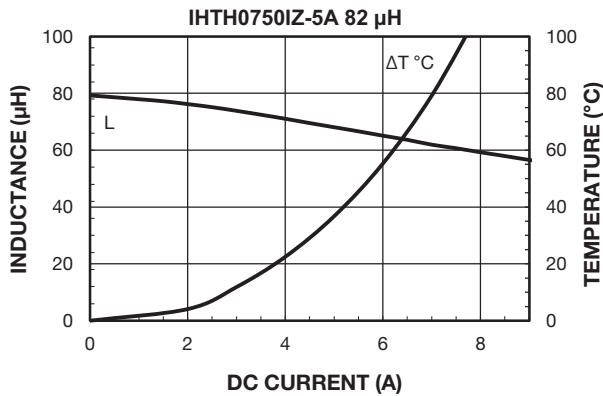
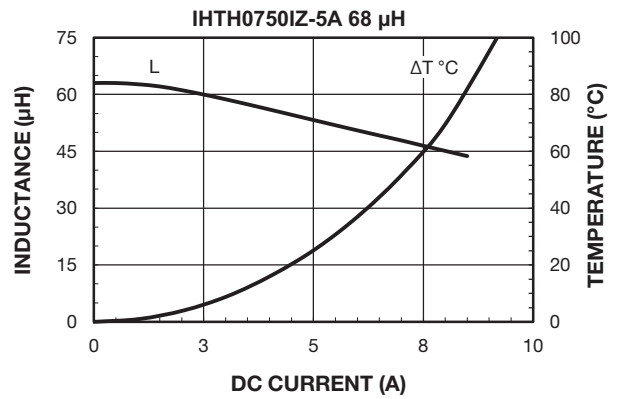
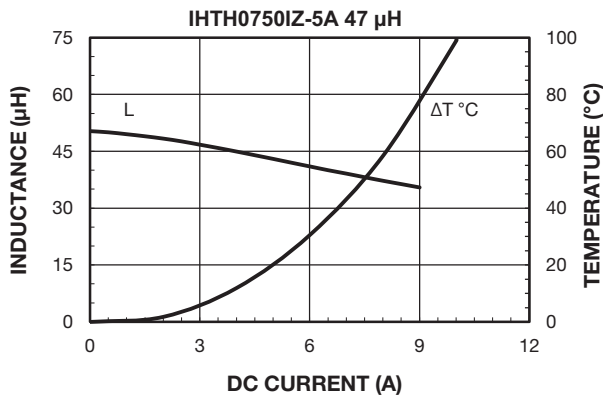
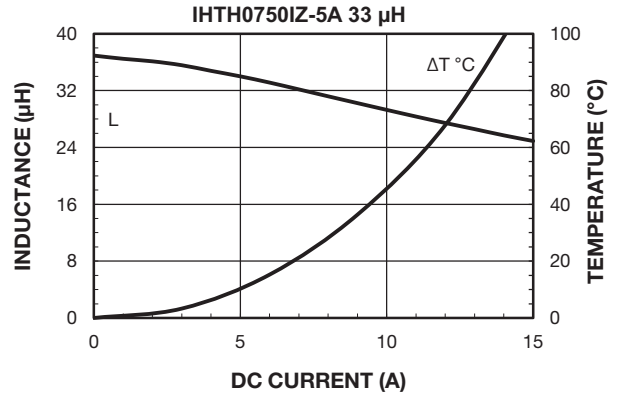
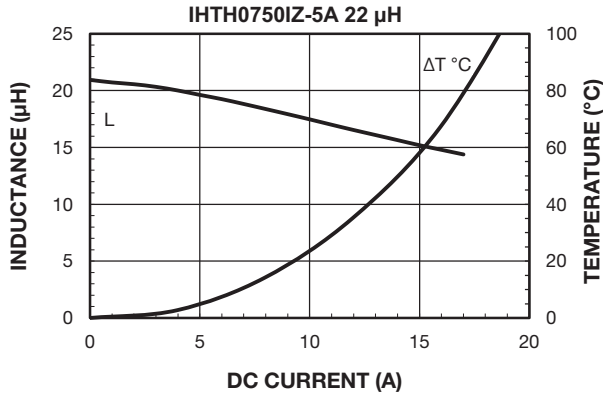


PERFORMANCE GRAPHS



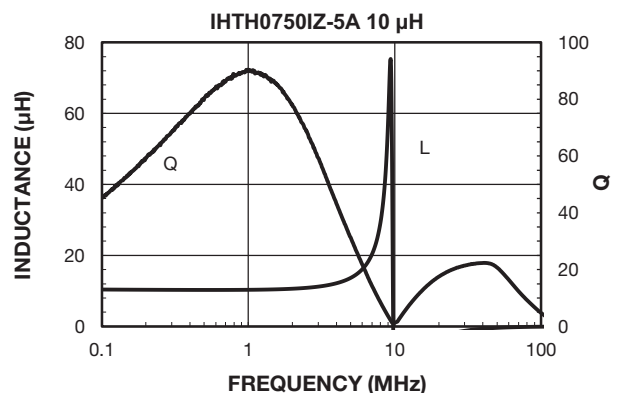
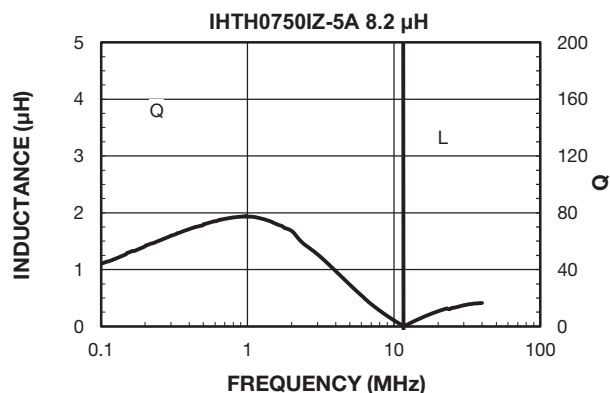
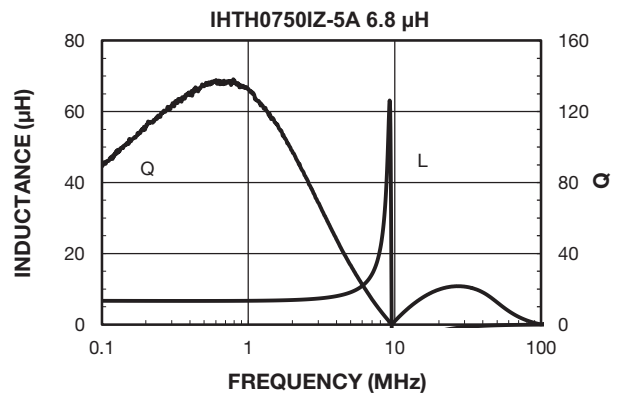
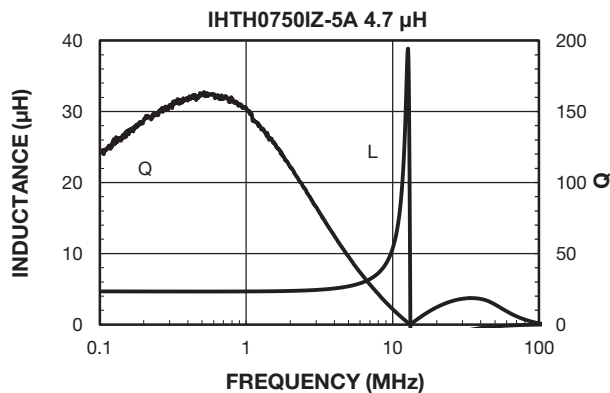
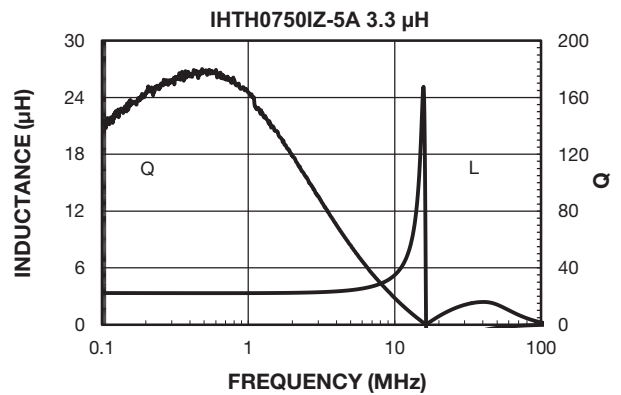
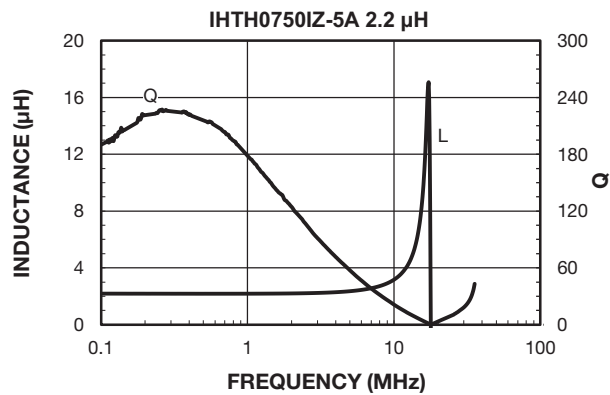
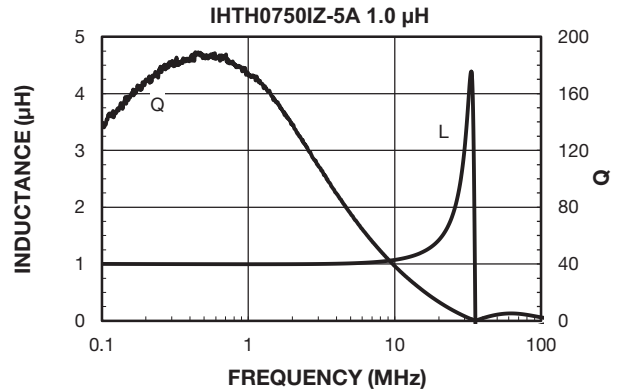
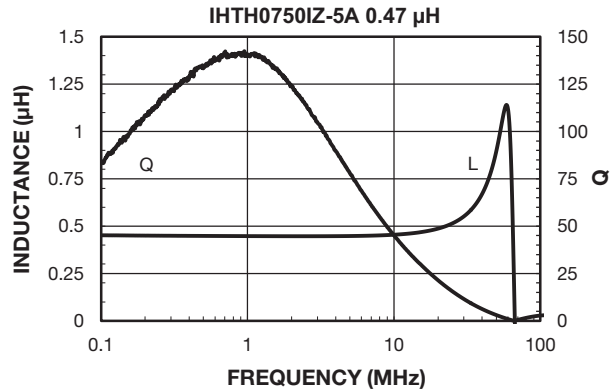


PERFORMANCE GRAPHS



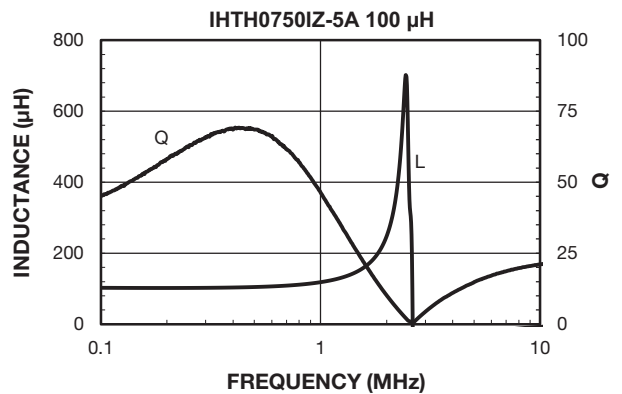
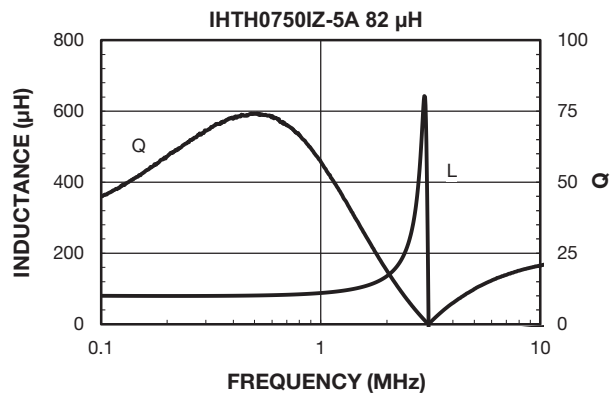
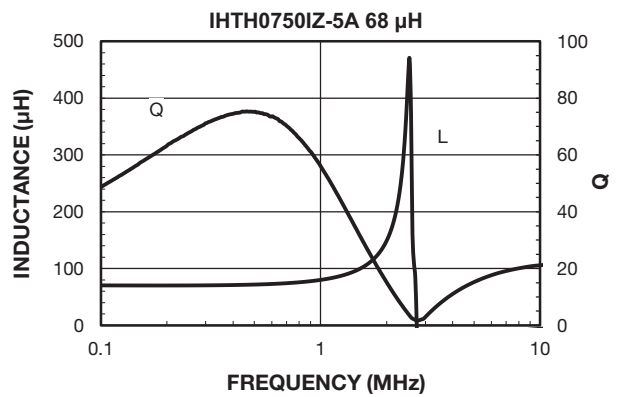
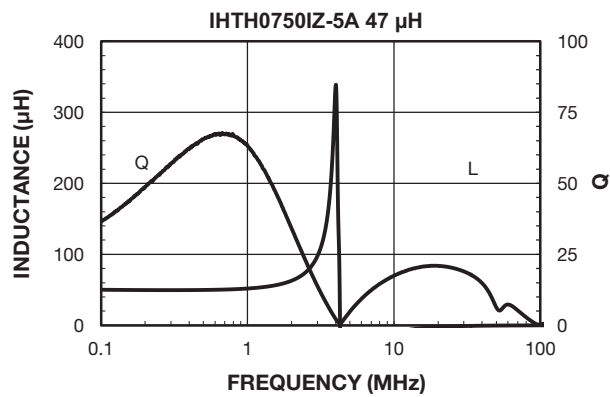
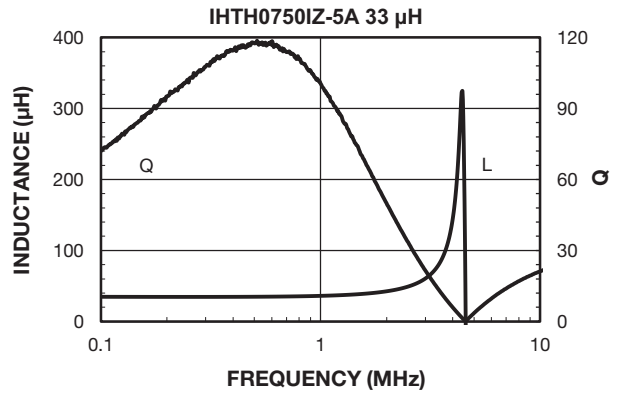
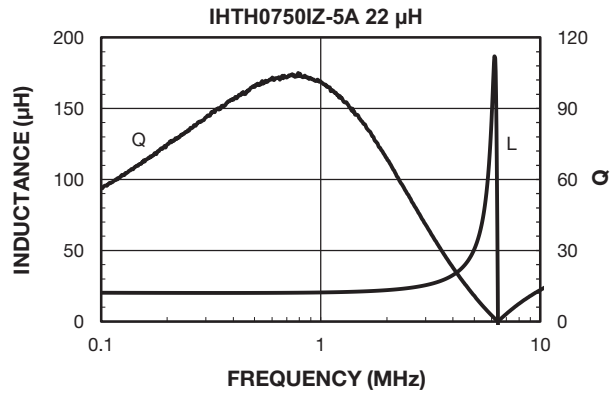


PERFORMANCE GRAPHS: INDUCTANCE AND Q VS. FREQUENCY





PERFORMANCE GRAPHS: INDUCTANCE AND Q VS. FREQUENCY





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