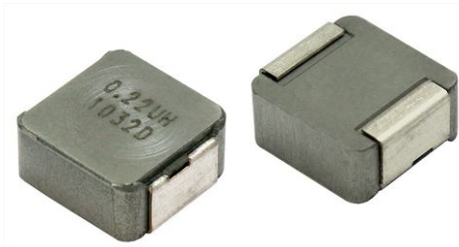




# IHLP® Automotive Inductors, High Temperature (155 °C) Series


**RoHS**  
COMPLIANT

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

## FEATURES

- Magnetically shielded construction
- Operating temperature up to 155 °C
- Handles high transient current spikes without saturation
- Ultra low buzz noise, due to composite construction
- AEC-Q200 qualified
- IHLP design; PATENT(S):  
[www.vishay.com/patents](http://www.vishay.com/patents)
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)

## LINKS TO ADDITIONAL RESOURCES



## 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 blower / HID lighting
- LED drivers

## STANDARD ELECTRICAL SPECIFICATIONS

| PART NUMBER        | L <sub>0</sub> INDUCTANCE<br>± 20 % AT 100 kHz,<br>0.25 V, 0 A<br>(μH) | DCR TYP.<br>25 °C<br>(mΩ) | DCR MAX.<br>25 °C<br>(mΩ) | HEAT RATING<br>CURRENT<br>DC TYP.<br>(A) <sup>(1)</sup> | SATURATION CURRENT<br>DC TYP.<br>(A) |                          | SRF TYP.<br>(MHz) |
|--------------------|------------------------------------------------------------------------|---------------------------|---------------------------|---------------------------------------------------------|--------------------------------------|--------------------------|-------------------|
|                    |                                                                        |                           |                           |                                                         | 20 % DROP <sup>(2)</sup>             | 30 % DROP <sup>(3)</sup> |                   |
| IHLP3232DZERR22M5A | 0.22                                                                   | 1.68                      | 1.86                      | 36                                                      | 32                                   | 44                       | 117               |
| IHLP3232DZERR47M5A | 0.47                                                                   | 2.38                      | 2.55                      | 27                                                      | 19                                   | 24                       | 77                |
| IHLP3232DZERR68M5A | 0.68                                                                   | 3.3                       | 3.53                      | 21.5                                                    | 12                                   | 17                       | 51                |
| IHLP3232DZERR82M5A | 0.82                                                                   | 3.7                       | 4                         | 20                                                      | 15                                   | 22                       | 49                |
| IHLP3232DZER1R0M5A | 1.0                                                                    | 4.58                      | 4.9                       | 19                                                      | 15                                   | 22                       | 45                |
| IHLP3232DZER1R5M5A | 1.5                                                                    | 6.78                      | 7.25                      | 15.5                                                    | 14                                   | 20                       | 35                |
| IHLP3232DZER2R2M5A | 2.2                                                                    | 11.7                      | 12.5                      | 11.5                                                    | 14                                   | 20                       | 32                |
| IHLP3232DZER3R3M5A | 3.3                                                                    | 15.4                      | 16.48                     | 10.6                                                    | 11.8                                 | 16                       | 23                |
| IHLP3232DZER4R7M5A | 4.7                                                                    | 26.6                      | 28.46                     | 7.2                                                     | 9.1                                  | 12                       | 18                |
| IHLP3232DZER5R6M5A | 5.6                                                                    | 29.6                      | 31.67                     | 6.9                                                     | 9                                    | 12                       | 18                |
| IHLP3232DZER6R8M5A | 6.8                                                                    | 33.5                      | 35.9                      | 6.8                                                     | 6.3                                  | 9.2                      | 15.3              |
| IHLP3232DZER100M5A | 10                                                                     | 50                        | 53.5                      | 5.1                                                     | 5.2                                  | 7                        | 13                |
| IHLP3232DZER150M5A | 15                                                                     | 62                        | 66.34                     | 4.8                                                     | 3.6                                  | 4.5                      | 10                |
| IHLP3232DZER220M5A | 22                                                                     | 103                       | 110.21                    | 3.7                                                     | 3.8                                  | 5                        | 9                 |
| IHLP3232DZER330M5A | 33                                                                     | 149                       | 159.43                    | 3.1                                                     | 3.2                                  | 4.2                      | 6.1               |

### Notes

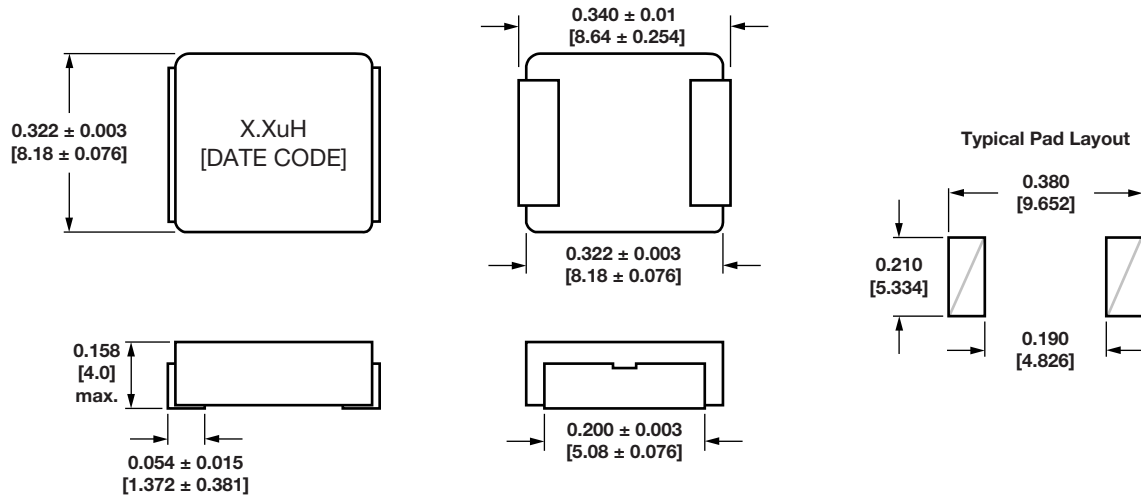
- All test data is referenced to 25 °C ambient
- Operating temperature range -55 °C to +155 °C
- The part temperature (ambient + temp. rise) should not exceed 155 °C under worst case operating conditions. Circuit design, component placement, PWB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application
- Rated operating voltage (across inductor) = 75 V
- <sup>(1)</sup> DC current (A) that will cause an approximate ΔT of 40 °C
- <sup>(2)</sup> DC current (A) that will cause L<sub>0</sub> to drop approximately 20 %
- <sup>(3)</sup> DC current (A) that will cause L<sub>0</sub> to drop approximately 30 %

**PATENT(S):** [www.vishay.com/patents](http://www.vishay.com/patents)

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



**DIMENSIONS** in inches [millimeters]



**DESCRIPTION**

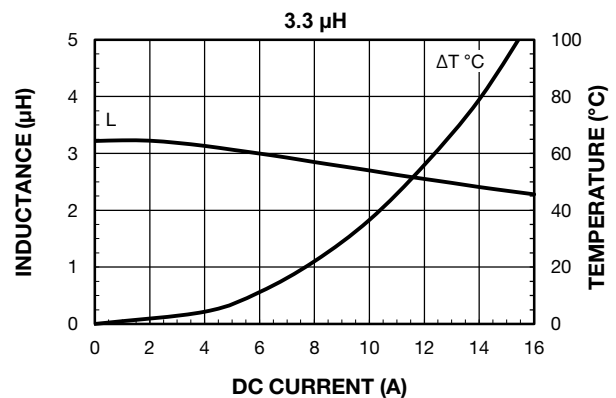
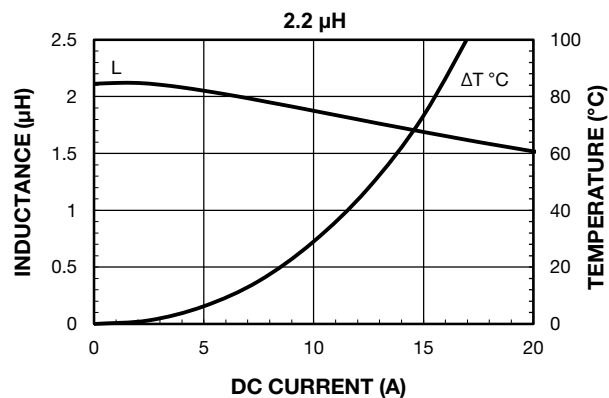
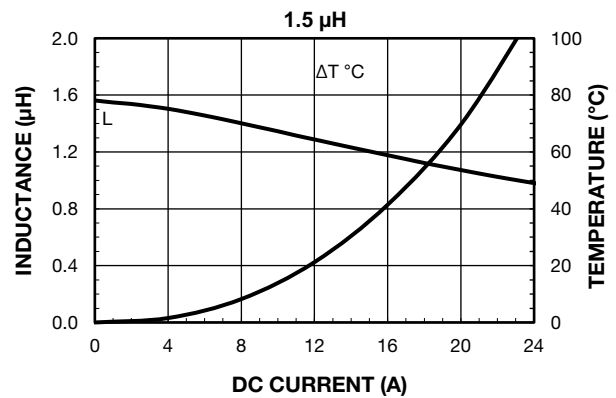
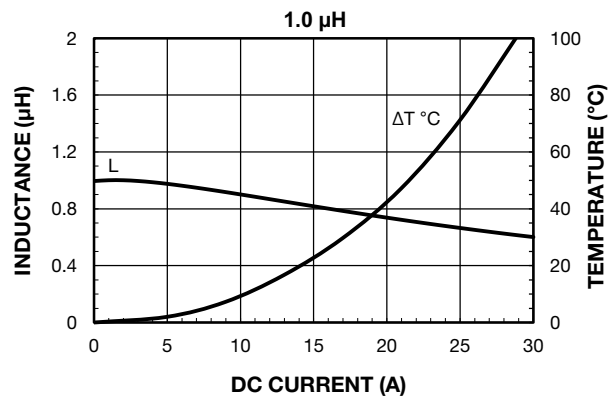
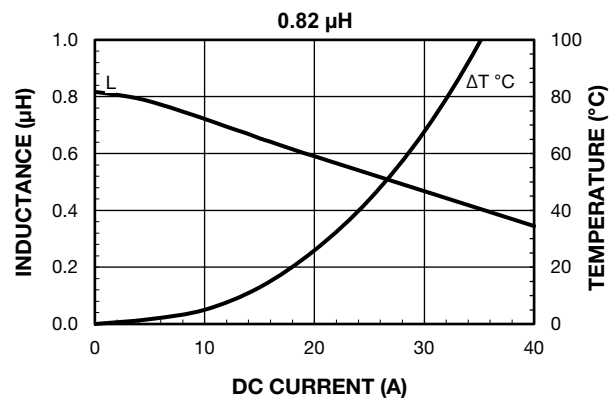
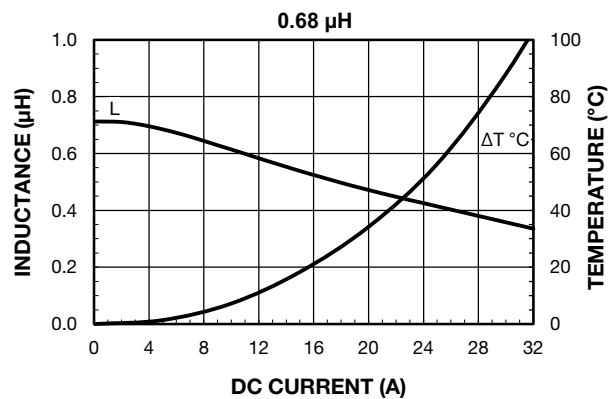
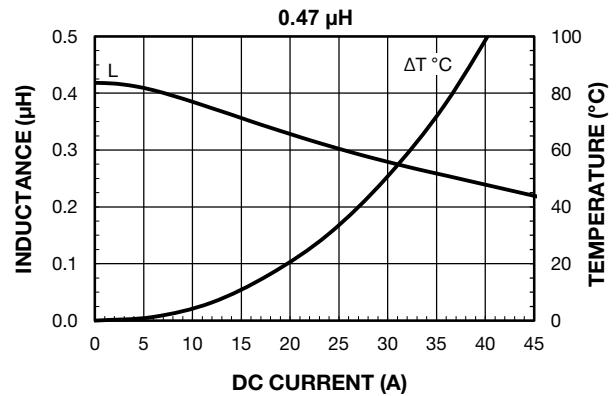
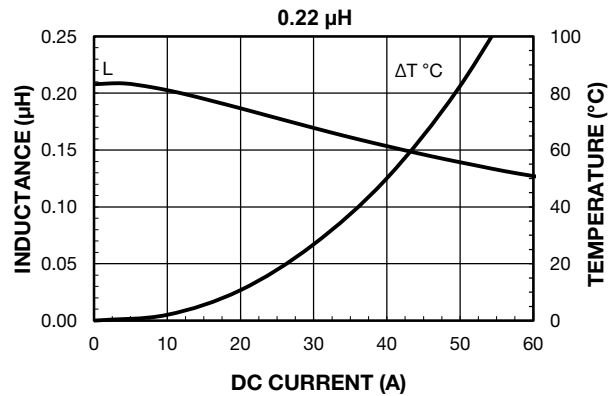
|                |                  |                      |              |                                |
|----------------|------------------|----------------------|--------------|--------------------------------|
| IHLP-3232DZ-5A | 10 µH            | ± 20 %               | ER           | E3                             |
| MODEL          | INDUCTANCE VALUE | INDUCTANCE TOLERANCE | PACKAGE CODE | JEDEC® LEAD (Pb)-FREE STANDARD |

**GLOBAL PART NUMBER**

|                |             |                    |                  |                      |        |
|----------------|-------------|--------------------|------------------|----------------------|--------|
| I H L P        | 3 2 3 2 D Z | E R                | 1 0 0            | M                    | 5 A    |
| PRODUCT FAMILY | SIZE        | PACKAGE CODE       | INDUCTANCE VALUE | INDUCTANCE TOLERANCE | SERIES |
|                |             | ER = tape and reel | 100 = 10 µH      | M = ± 20 %           |        |

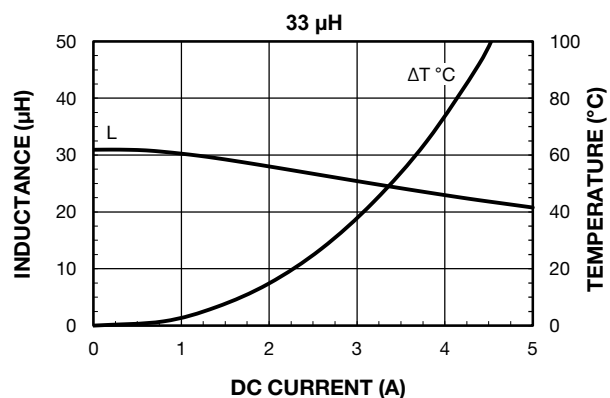
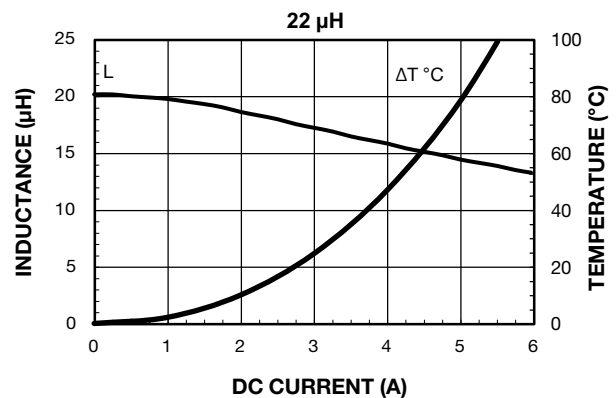
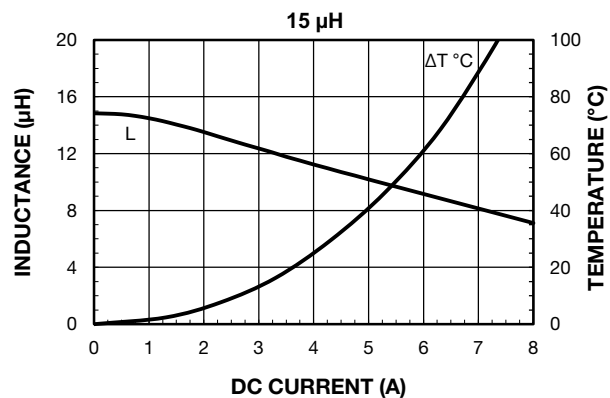
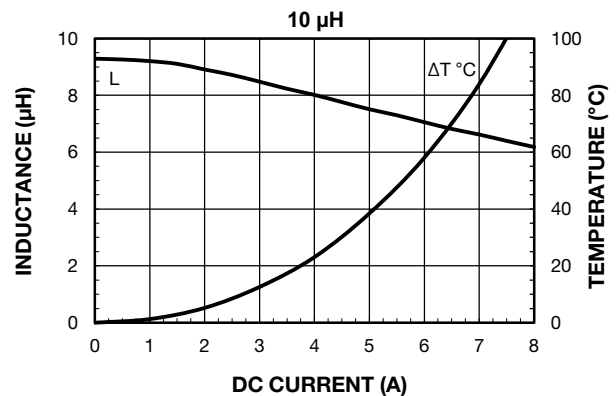
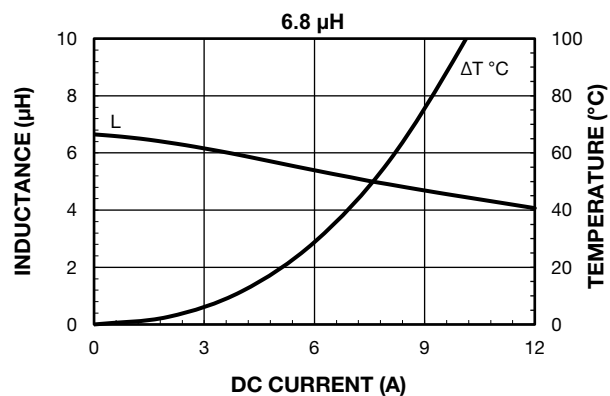
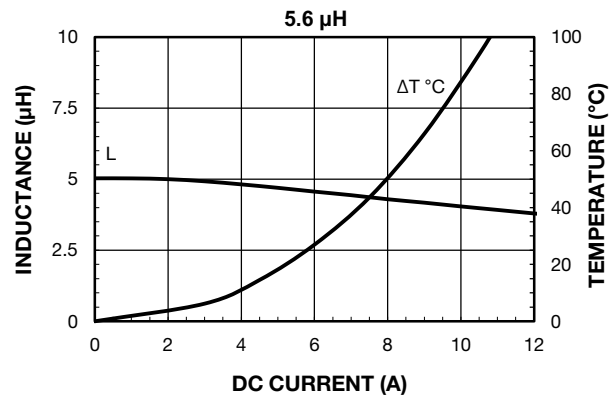
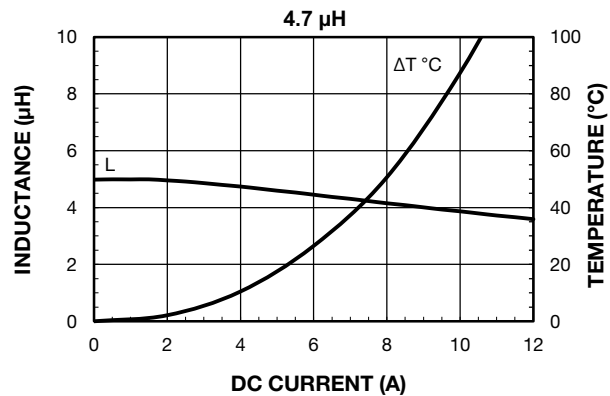


## PERFORMANCE GRAPHS



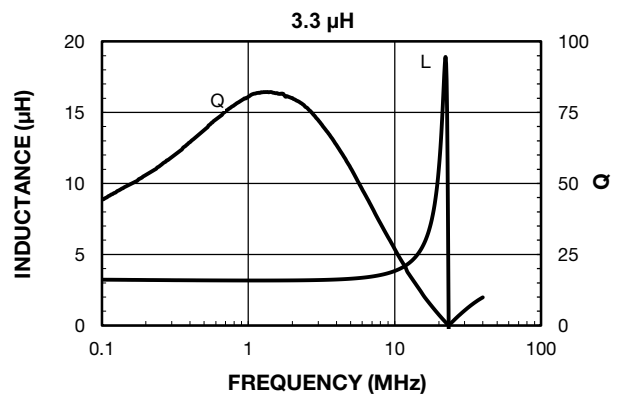
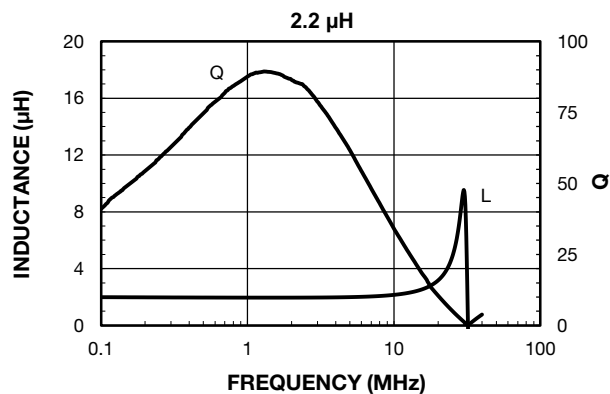
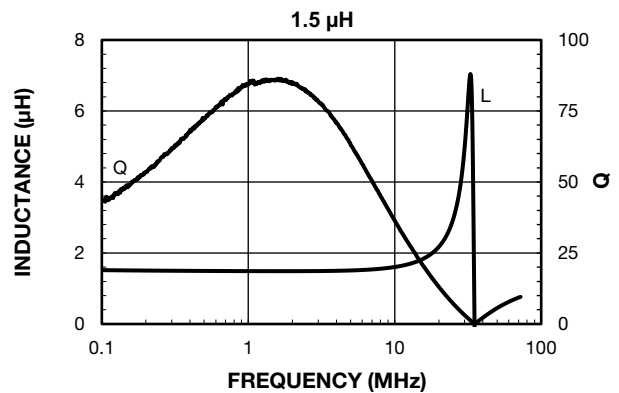
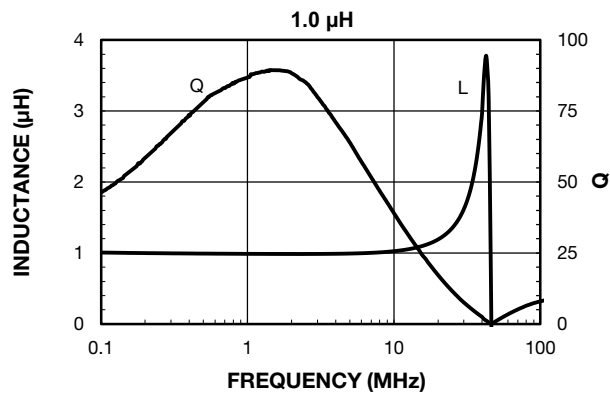
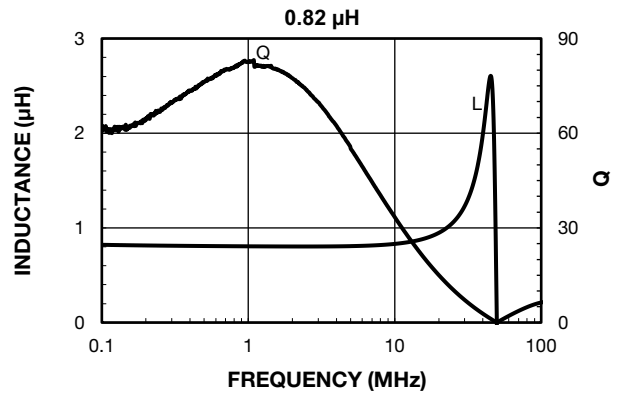
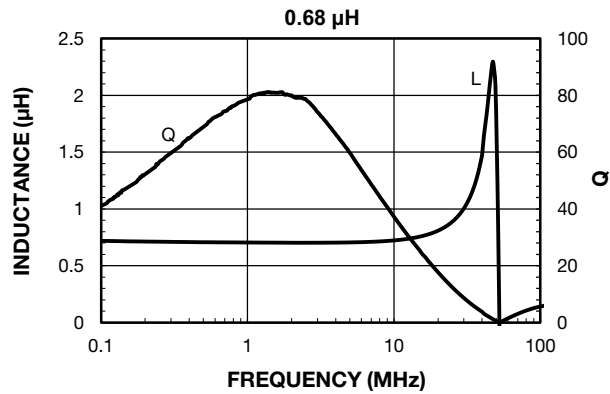
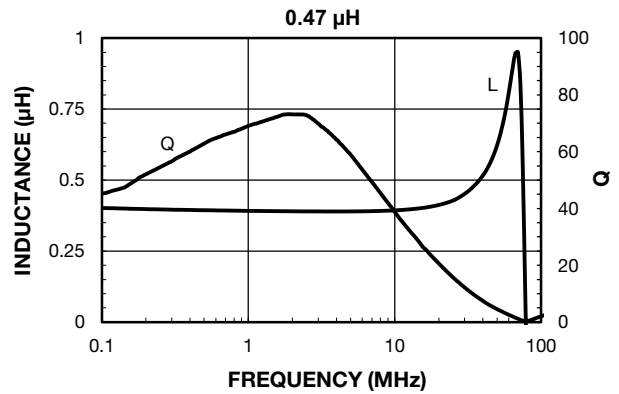
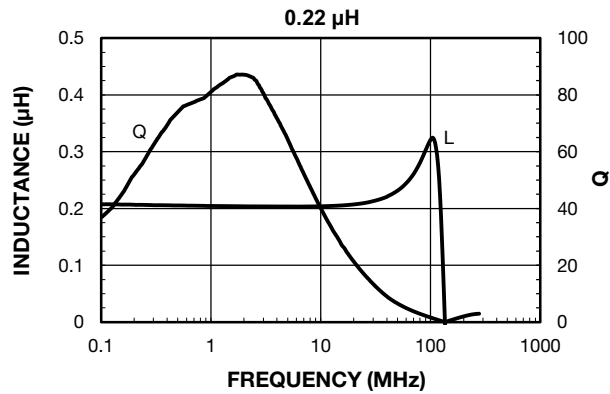


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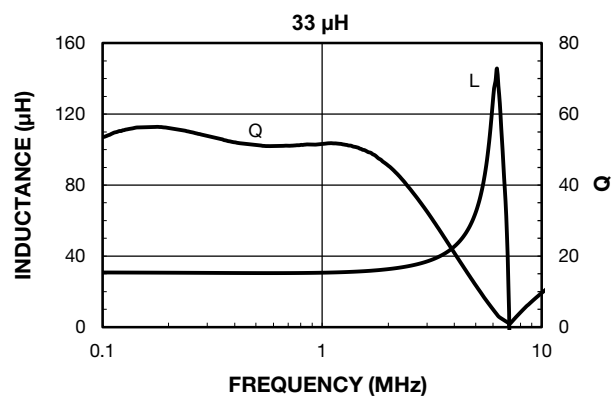
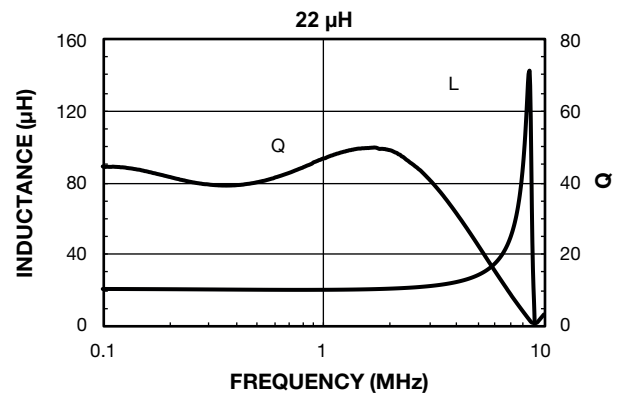
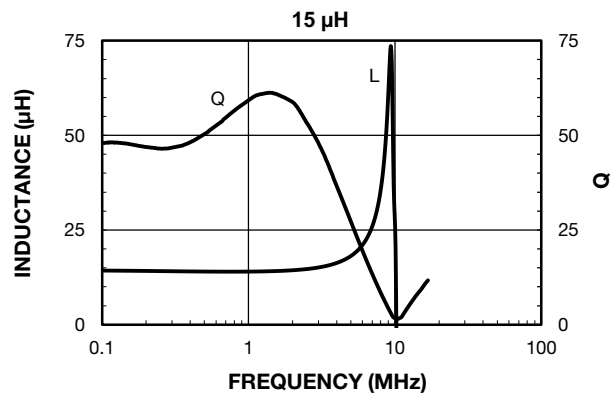
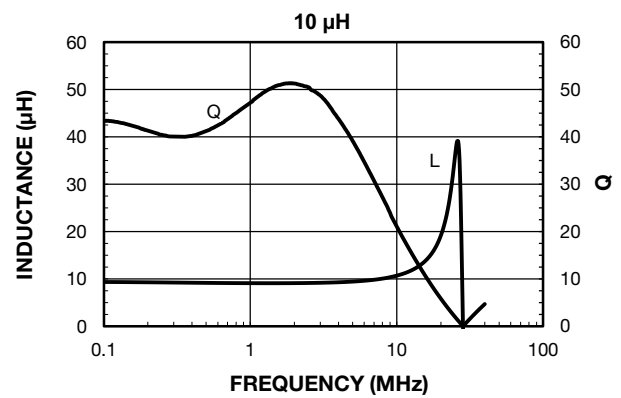
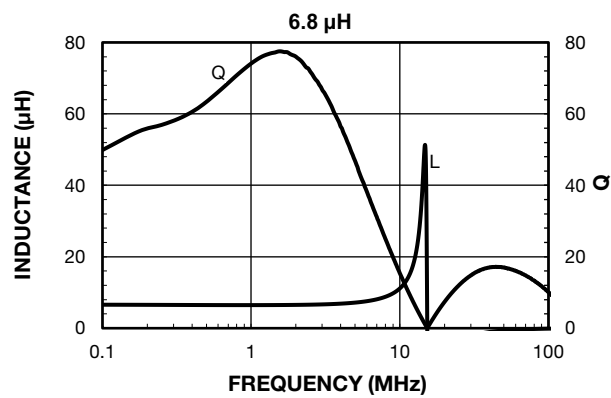
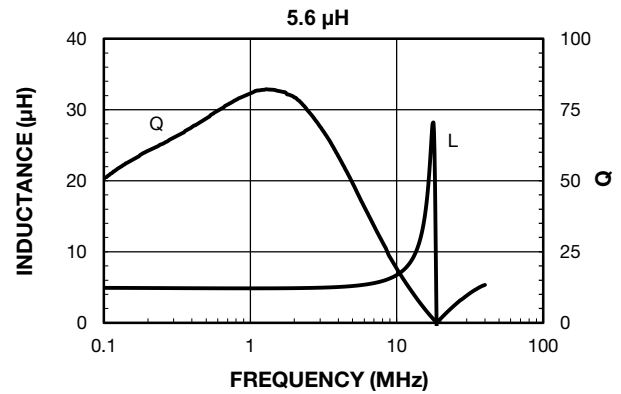
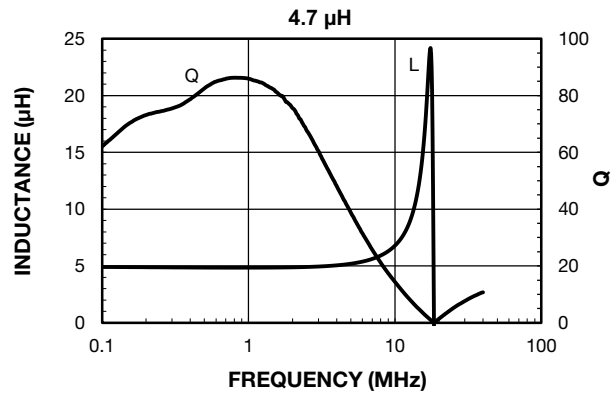


PERFORMANCE GRAPHS: INDUCTANCE AND Q VS. FREQUENCY





## PERFORMANCE GRAPHS: INDUCTANCE AND Q VS. FREQUENCY





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