

## IHLP® Automotive Inductors, Low DCR Series



### LINKS TO ADDITIONAL RESOURCES



3D Models



Design Tools

### STANDARD ELECTRICAL SPECIFICATIONS

| L <sub>0</sub><br>INDUCTANCE<br>± 20 %<br>AT 100 kHz,<br>0.25 V, 0 A<br>(μH) | DCR<br>TYP.<br>25 °C<br>(mΩ) | DCR<br>MAX.<br>25 °C<br>(mΩ) | HEAT<br>RATING<br>CURRENT<br>DC TYP.<br>(A) <sup>(1)</sup> | SATURATION<br>CURRENT<br>DC TYP.<br>(A) <sup>(2)</sup> | SRF<br>TYP.<br>(MHz) |
|------------------------------------------------------------------------------|------------------------------|------------------------------|------------------------------------------------------------|--------------------------------------------------------|----------------------|
| 0.33                                                                         | 0.67                         | 0.73                         | 75.5                                                       | 55                                                     | 78                   |
| 0.47                                                                         | 0.78                         | 0.87                         | 72                                                         | 57                                                     | 60                   |
| 0.56                                                                         | 0.83                         | 0.91                         | 61                                                         | 66                                                     | 40                   |
| 0.82                                                                         | 0.98                         | 1.08                         | 56.5                                                       | 45                                                     | 36                   |
| 1.0                                                                          | 1.21                         | 1.27                         | 55.5                                                       | 32                                                     | 34                   |
| 1.5                                                                          | 1.54                         | 1.62                         | 48                                                         | 31                                                     | 26                   |
| 2.2                                                                          | 1.85                         | 1.98                         | 43.5                                                       | 28                                                     | 19                   |
| 3.3                                                                          | 2.79                         | 2.93                         | 35                                                         | 27                                                     | 16                   |
| 4.7                                                                          | 3.98                         | 4.18                         | 30                                                         | 21                                                     | 10.7                 |
| 5.6                                                                          | 4.23                         | 4.44                         | 28                                                         | 21                                                     | 11.8                 |
| 6.8                                                                          | 5.86                         | 6.15                         | 22.5                                                       | 18.5                                                   | 10.0                 |
| 8.2                                                                          | 7.71                         | 8.10                         | 21                                                         | 18                                                     | 10.0                 |
| 10.0                                                                         | 8.89                         | 9.33                         | 19                                                         | 17                                                     | 8.0                  |
| 15.0                                                                         | 13.7                         | 14.4                         | 14                                                         | 12                                                     | 7.5                  |
| 22.0                                                                         | 20.0                         | 21.0                         | 12                                                         | 9.5                                                    | 4.3                  |
| 33.0                                                                         | 35.1                         | 37.0                         | 10.7                                                       | 9                                                      | 4.8                  |
| 47.0                                                                         | 40.7                         | 42.7                         | 8.7                                                        | 8.6                                                    | 4.1                  |
| 56.0                                                                         | 55                           | 57.8                         | 7.2                                                        | 4.2                                                    | 2.9                  |
| 68.0                                                                         | 72.1                         | 75.7                         | 6.1                                                        | 4.5                                                    | 3.0                  |
| 82.0                                                                         | 87.3                         | 91.7                         | 5.5                                                        | 4.5                                                    | 2.6                  |
| 100.0                                                                        | 105                          | 110                          | 5.0                                                        | 4.0                                                    | 2.1                  |

#### 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
- <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 %

### FEATURES

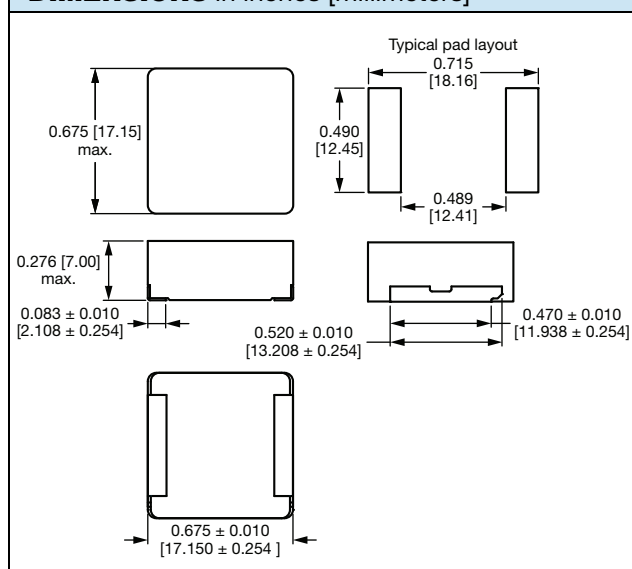
- Shielded construction
- Excellent DC/DC energy storage up to 1 MHz to 2 MHz. Filter inductor applications up to SRF (see “Standard Electrical Specifications” table)
- Lowest DCR/μH, in this package size
- Handles high transient current spikes without saturation
- Ultra low buzz noise, due to composite construction
- AEC-Q200 qualified
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)


**RoHS**  
COMPLIANT  
HALOGEN  
**FREE**

### 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

### DIMENSIONS in inches [millimeters]





## DESCRIPTION

|                       |                              |                              |              |                                |
|-----------------------|------------------------------|------------------------------|--------------|--------------------------------|
| <b>IHLP-6767GZ-1A</b> | <b>4.7 <math>\mu</math>H</b> | <b><math>\pm 20\%</math></b> | <b>EK</b>    | <b>e3</b>                      |
| MODEL                 | INDUCTANCE VALUE             | INDUCTANCE TOLERANCE         | PACKAGE CODE | JEDEC® LEAD (Pb)-FREE STANDARD |

## GLOBAL PART NUMBER

|                |                    |                              |                          |                                                |            |
|----------------|--------------------|------------------------------|--------------------------|------------------------------------------------|------------|
| <b>I H L P</b> | <b>6 7 6 7 G Z</b> | <b>E K</b>                   | <b>4 R 7</b>             | <b>M</b>                                       | <b>1 A</b> |
| PRODUCT FAMILY | SIZE               | PACKAGE CODE                 | INDUCTANCE VALUE         | INDUCTANCE TOLERANCE                           | SERIES     |
|                |                    | <b>EK</b> =<br>tape and reel | <b>4R7</b> = 4.7 $\mu$ H | <b>M</b> = $\pm 20\%$<br><b>N</b> = $\pm 30\%$ |            |

## PACKAGE CODE OPTIONS

**EK** = tape and reel packaging (250 pcs on 13-inch reel)

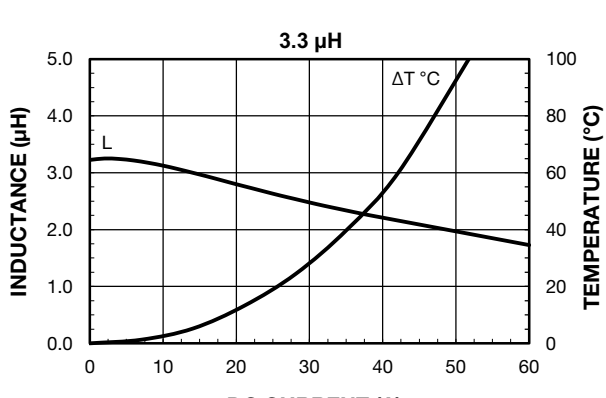
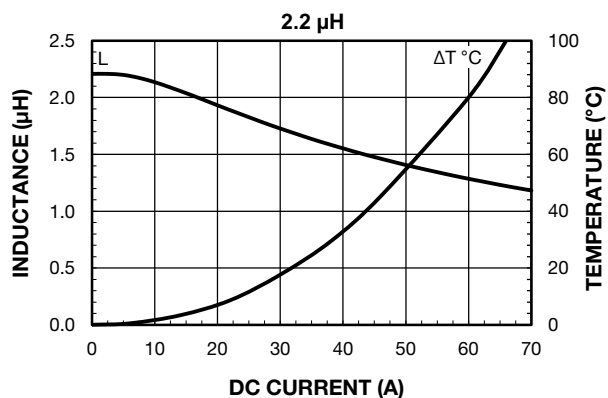
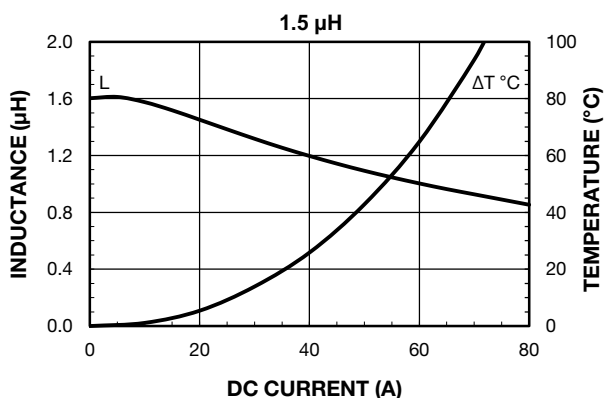
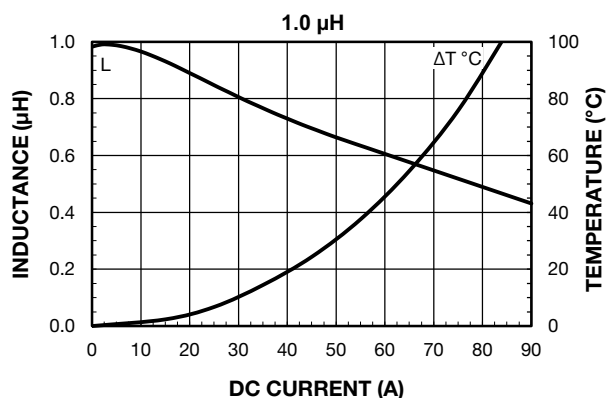
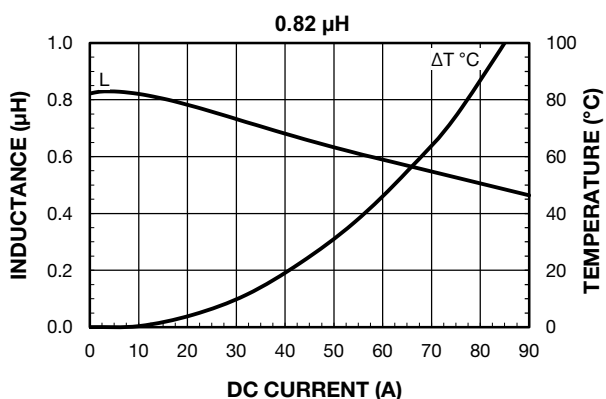
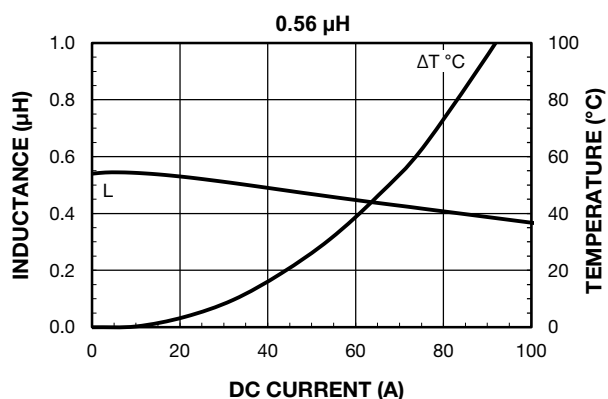
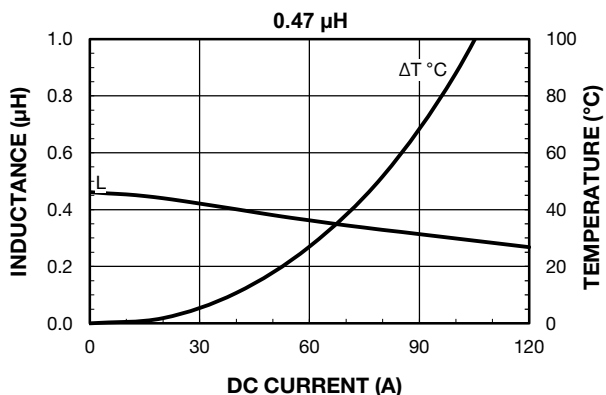
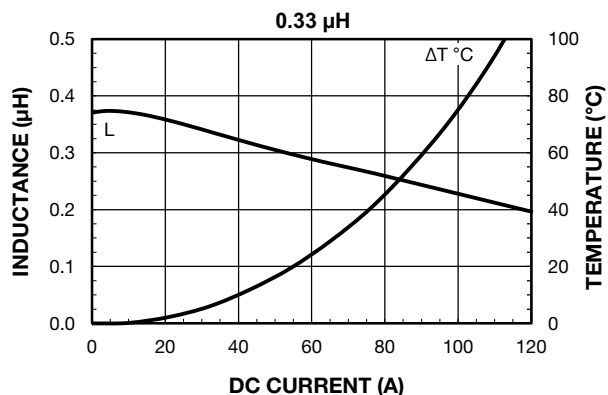
**ER** = tape and reel packaging (200 pcs on 13-inch reel)

### Note

- For additional packaging details see "[Packaging Methods](#)"

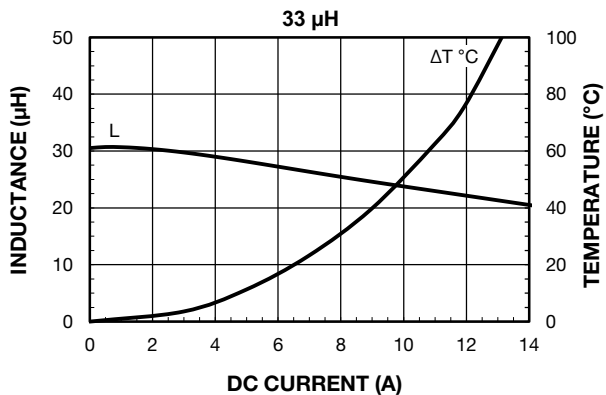
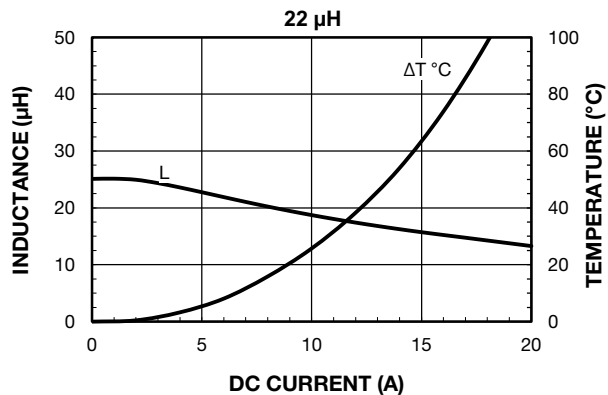
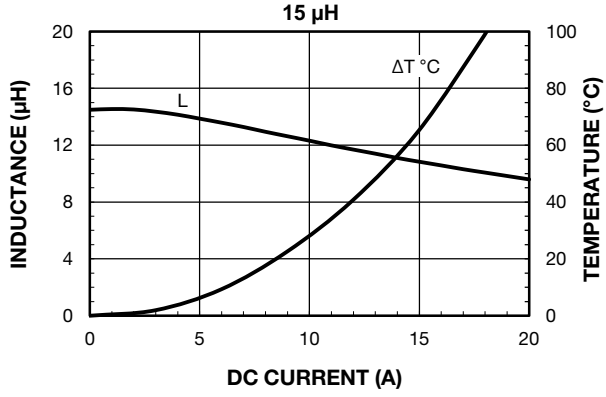
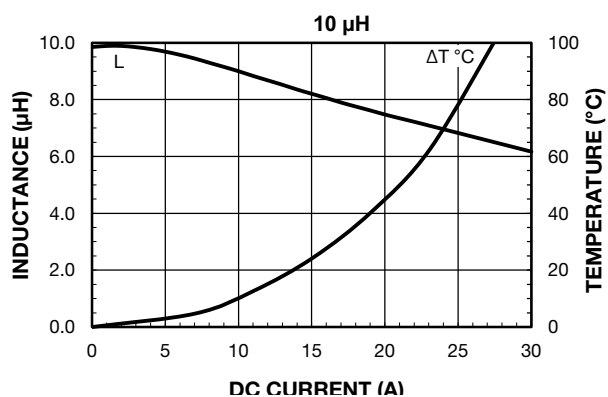
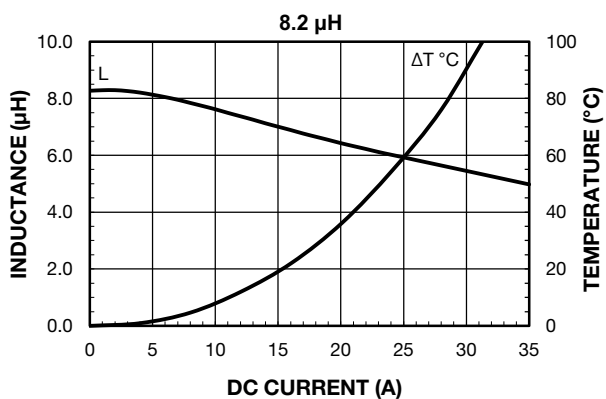
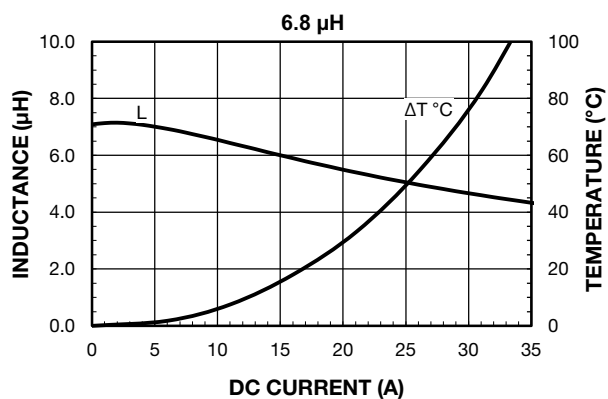
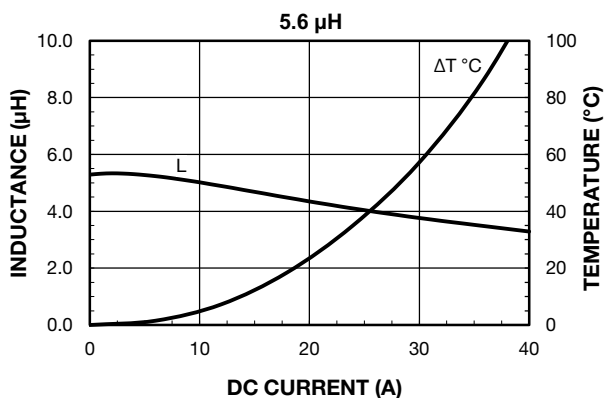
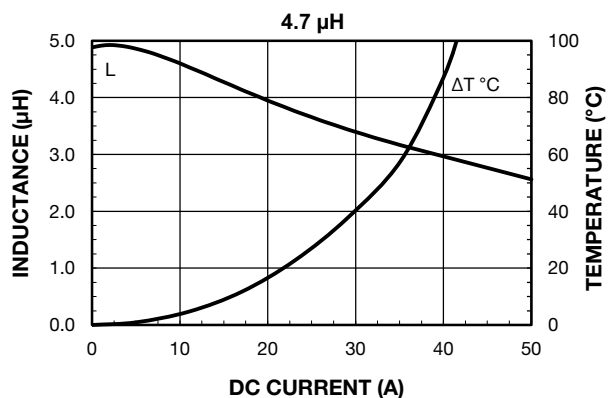


PERFORMANCE GRAPHS



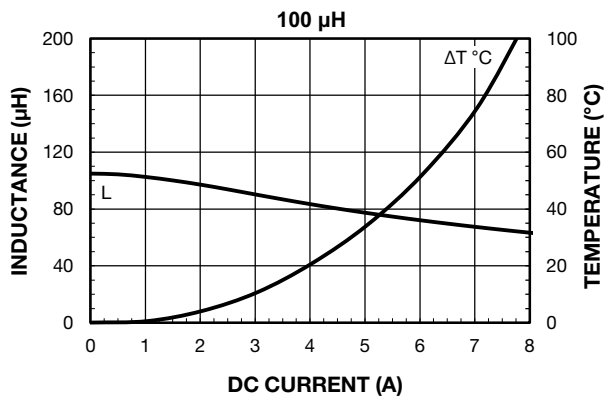
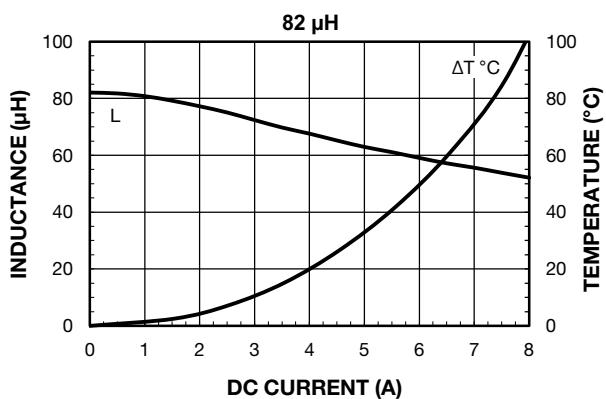
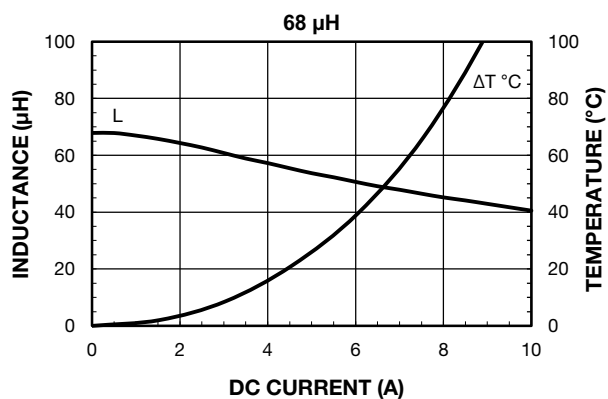
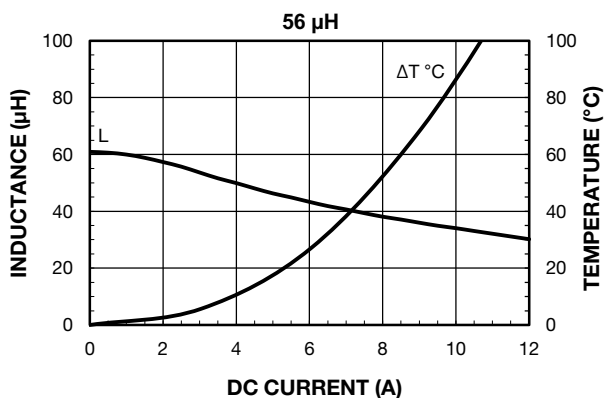
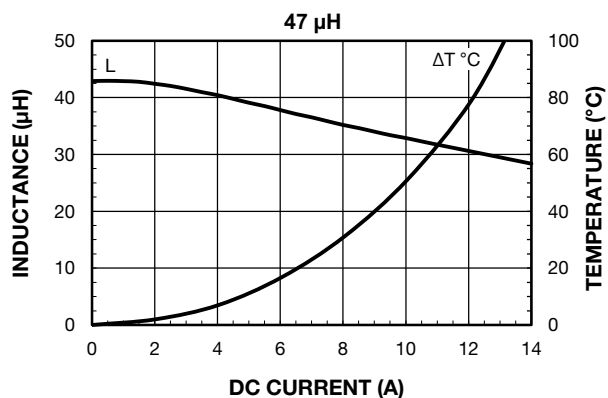


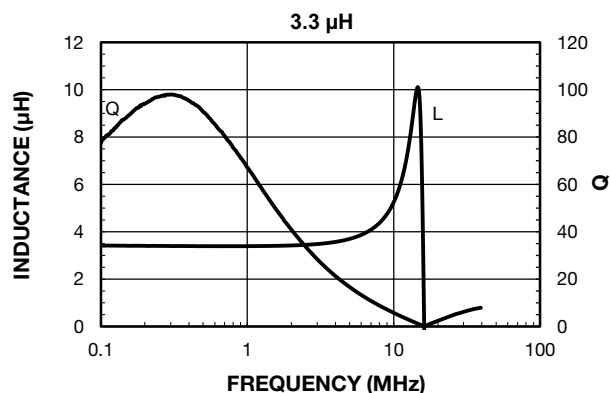
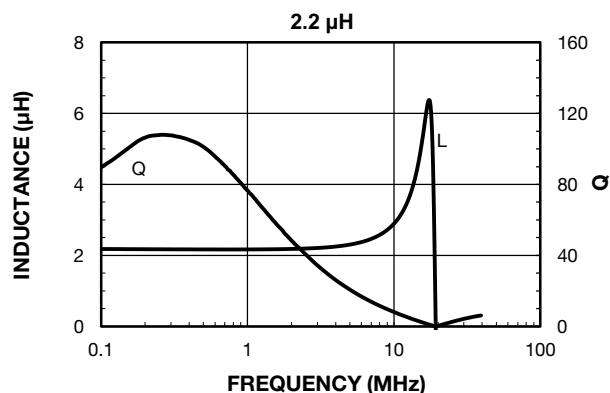
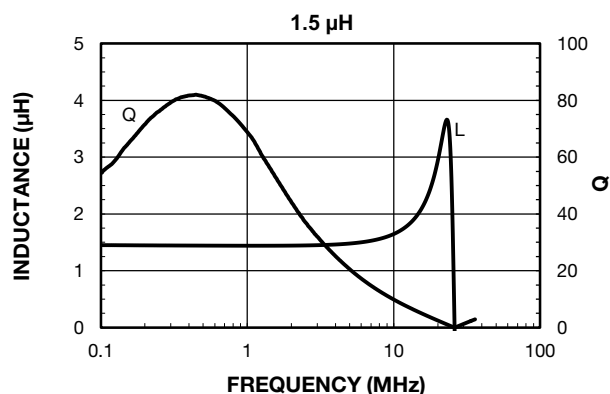
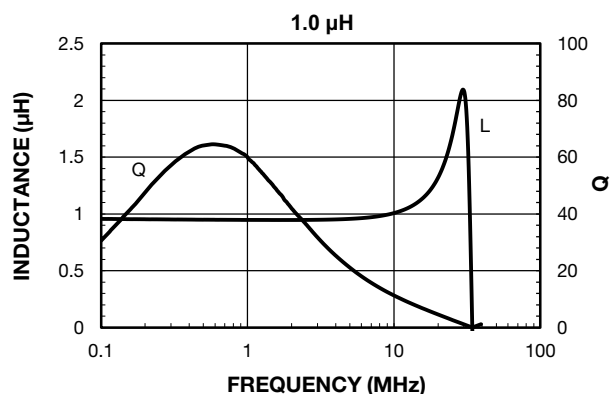
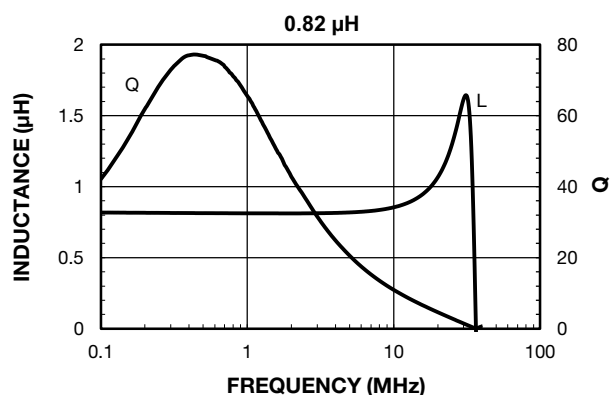
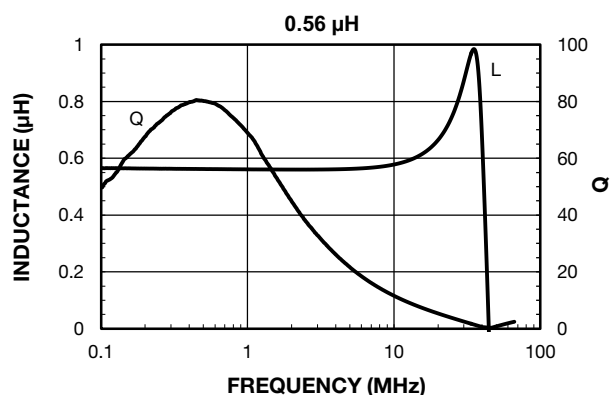
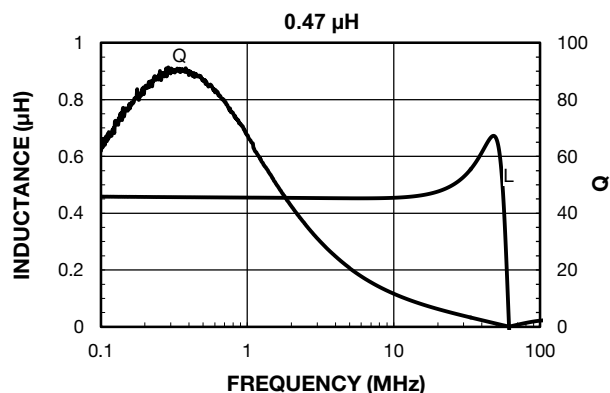
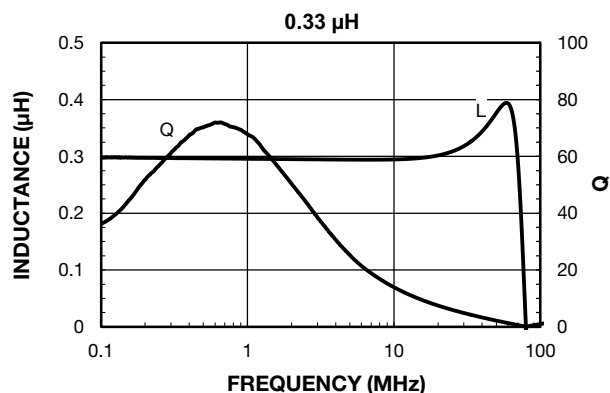
PERFORMANCE GRAPHS





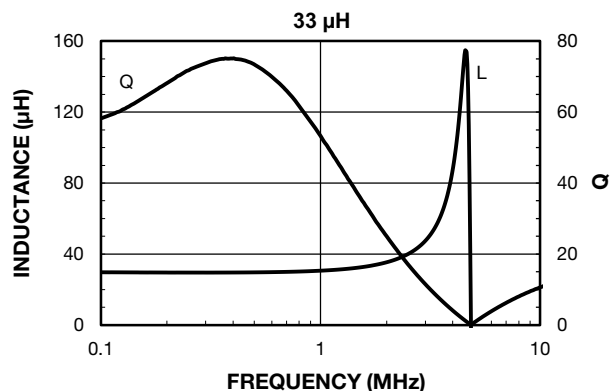
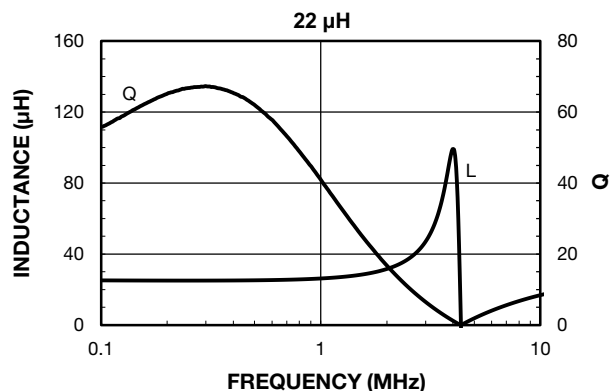
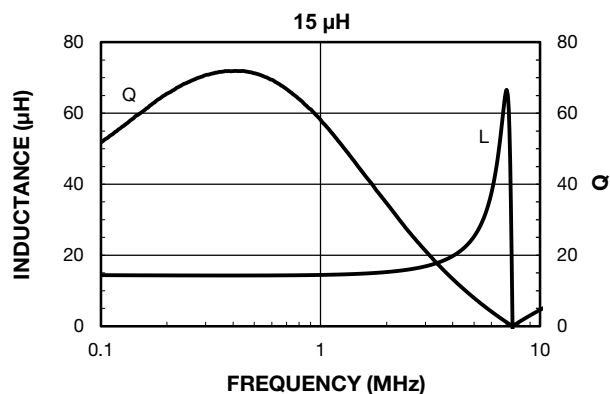
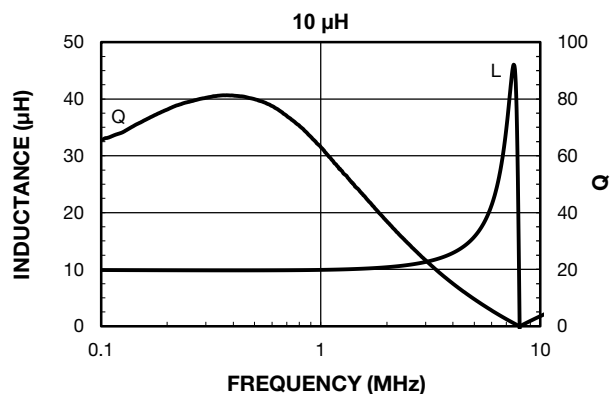
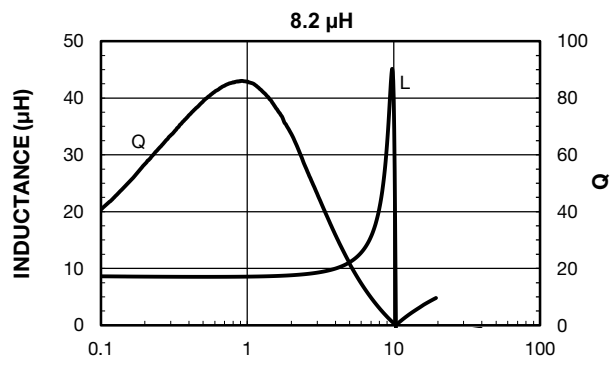
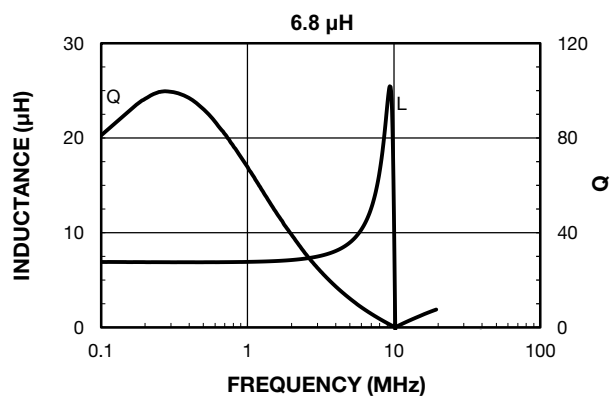
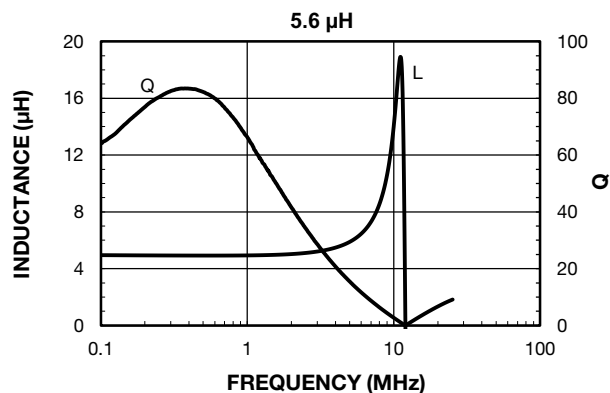
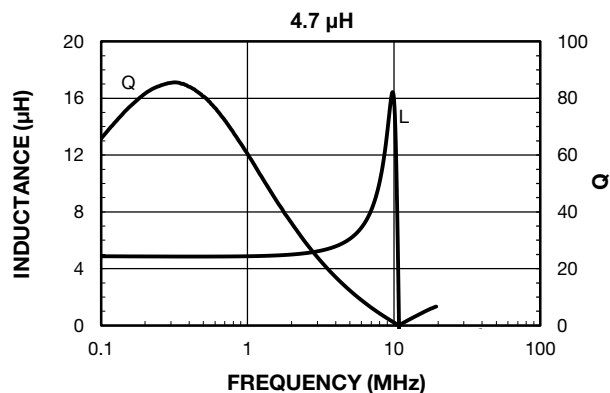
PERFORMANCE GRAPHS



**PERFORMANCE GRAPHS: INDUCTANCE AND Q VS. FREQUENCY**


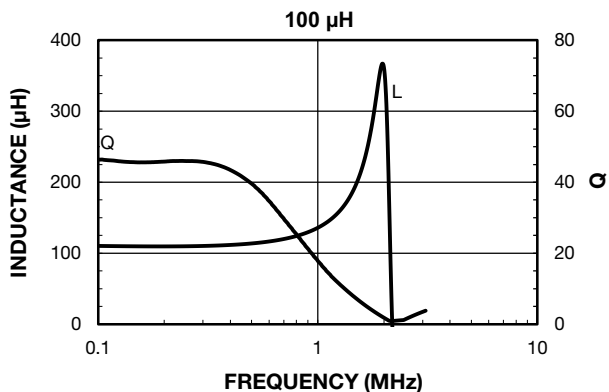
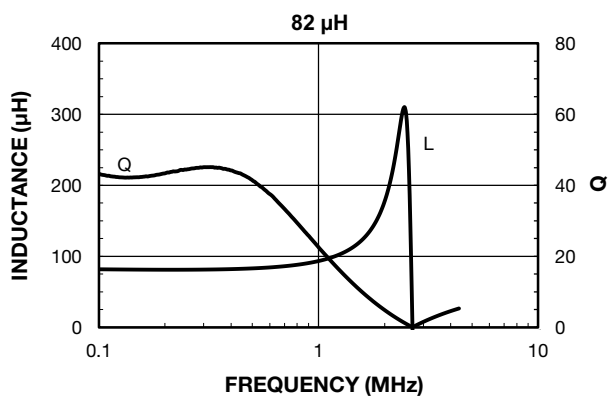
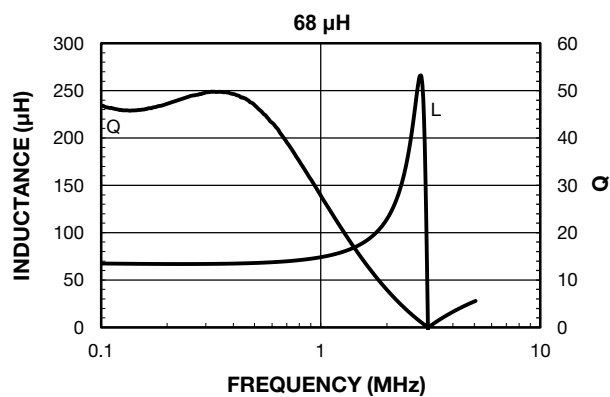
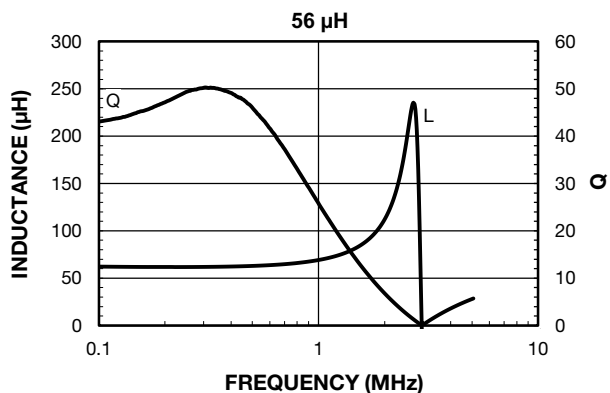
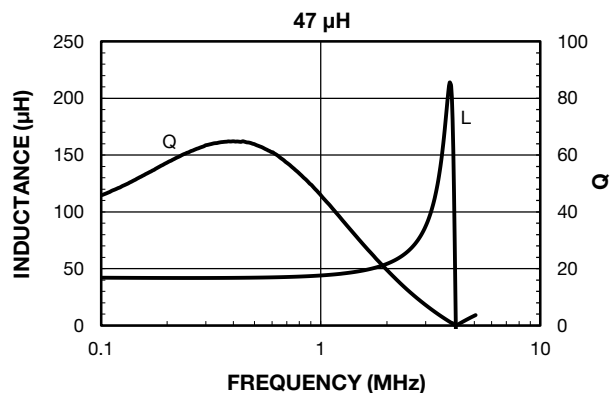


PERFORMANCE GRAPHS: INDUCTANCE AND Q VS. FREQUENCY





PERFORMANCE GRAPHS: INDUCTANCE AND Q VS. FREQUENCY





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