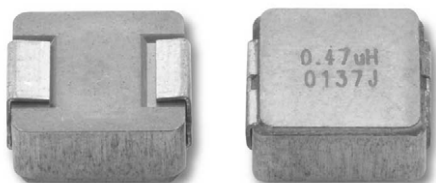




# THE DATASHEET OF IHLP2020BZERR47M01

## IHLP® Inductors, High Saturation Series



### FEATURES

- Low profile inductor with excellent saturation for maximum ripple regulation and transient current control
- 5.18 mm x 5.18 mm x 2.0 mm SMD package
- Magnetically shielded construction
- Handles high transient current spikes without saturation
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



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

### LINKS TO ADDITIONAL RESOURCES


[Product Page](#)

[3D Models](#)

[Calculators](#)

### APPLICATIONS

- DC/DC converters
- Power line noise suppression and filtering
- SSD modules, USB chargers

### STANDARD ELECTRICAL SPECIFICATIONS

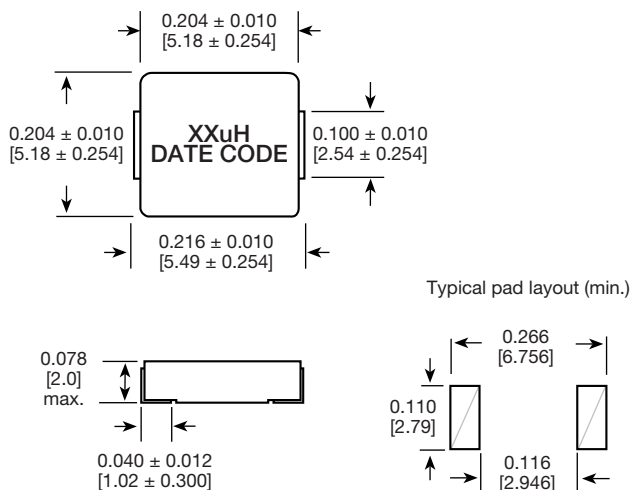
| PART NUMBER        | L <sub>0</sub> INDUCTANCE ± 20 %<br>AT 100 kHz, 0.25 V, 0 A<br>(μH) | DCR TYP.<br>25 °C<br>(mΩ) | DCR MAX.<br>25 °C<br>(mΩ) | HEAT RATING<br>CURRENT<br>DC TYP.<br>(A) <sup>(1)</sup> | SATURATION<br>CURRENT<br>DC TYP.<br>(A) <sup>(2)</sup> | SRF TYP.<br>(MHz) |
|--------------------|---------------------------------------------------------------------|---------------------------|---------------------------|---------------------------------------------------------|--------------------------------------------------------|-------------------|
| IHLP2020BZERR10M01 | 0.10                                                                | 3.6                       | 3.9                       | 17.0                                                    | 45.0                                                   | 239               |
| IHLP2020BZERR22M01 | 0.22                                                                | 4.9                       | 5.2                       | 15.0                                                    | 22.0                                                   | 145               |
| IHLP2020BZERR33M01 | 0.33                                                                | 7.6                       | 8.2                       | 12.0                                                    | 25.0                                                   | 125               |
| IHLP2020BZERR47M01 | 0.47                                                                | 8.9                       | 9.4                       | 11.5                                                    | 21.0                                                   | 98                |
| IHLP2020BZERR68M01 | 0.68                                                                | 11.2                      | 12.4                      | 10.0                                                    | 15.0                                                   | 77                |
| IHLP2020BZER1R0M01 | 1.0                                                                 | 18.9                      | 20.0                      | 7.0                                                     | 16.0                                                   | 62                |
| IHLP2020BZER2R2M01 | 2.2                                                                 | 45.6                      | 50.1                      | 4.2                                                     | 9.5                                                    | 39                |
| IHLP2020BZER3R3M01 | 3.3                                                                 | 79.2                      | 85.5                      | 3.3                                                     | 8.5                                                    | 30                |
| IHLP2020BZER4R7M01 | 4.7                                                                 | 108.0                     | 116.6                     | 2.8                                                     | 5.0                                                    | 28                |
| IHLP2020BZER5R6M01 | 5.6                                                                 | 113.0                     | 122.0                     | 2.5                                                     | 4.5                                                    | 24                |
| IHLP2020BZER6R8M01 | 6.8                                                                 | 139.0                     | 150.0                     | 2.4                                                     | 4.3                                                    | 21                |
| IHLP2020BZER100M01 | 10                                                                  | 184.0                     | 199.0                     | 2.3                                                     | 4.0                                                    | 20                |

### 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, PCB 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 %



**DIMENSIONS** in inches [millimeters]



**DESCRIPTION**

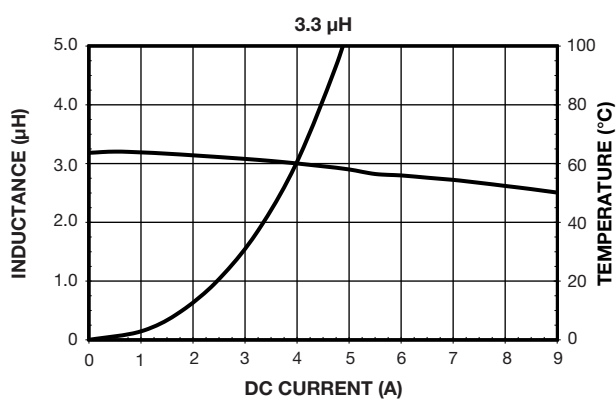
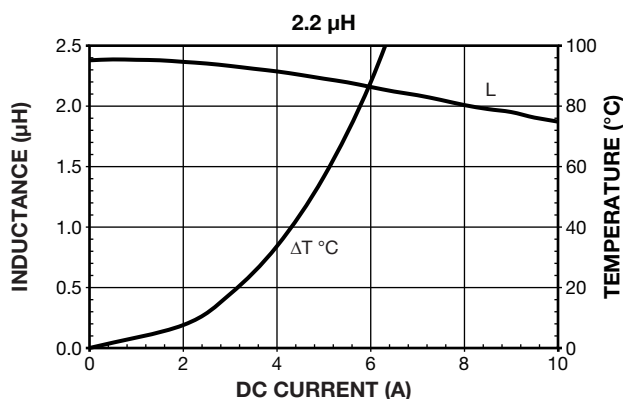
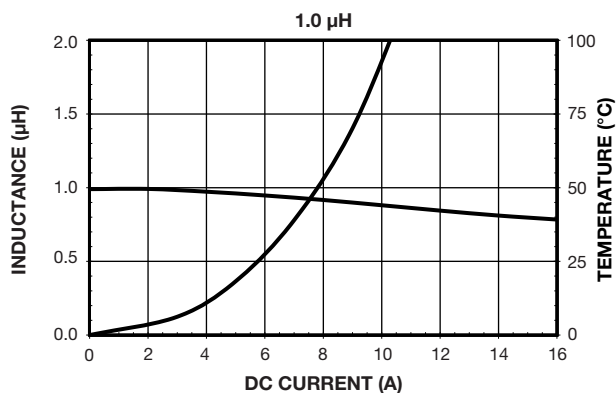
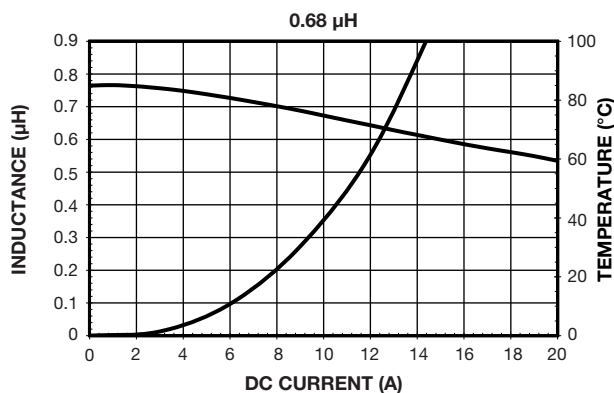
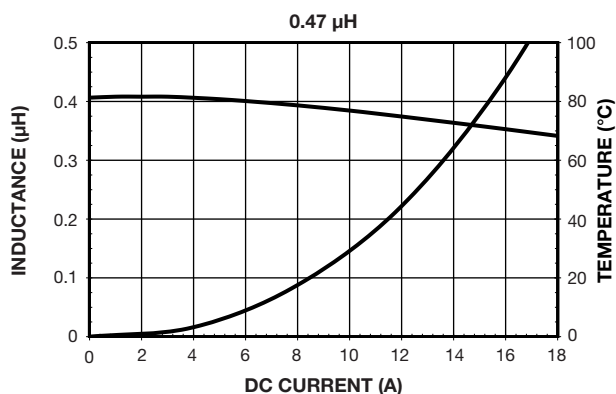
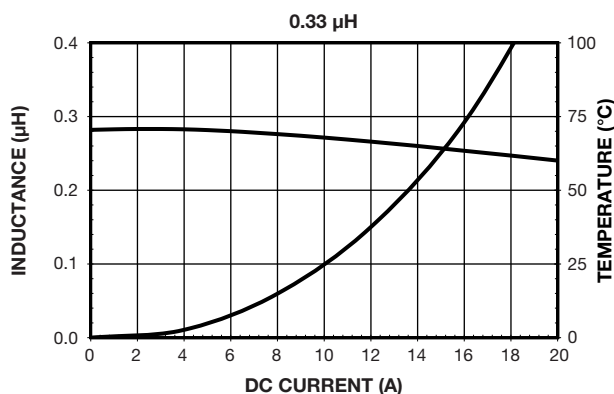
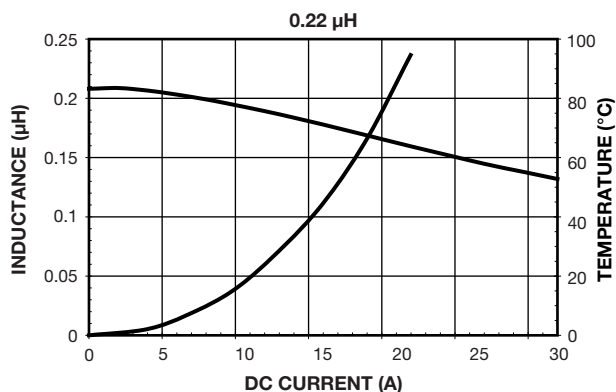
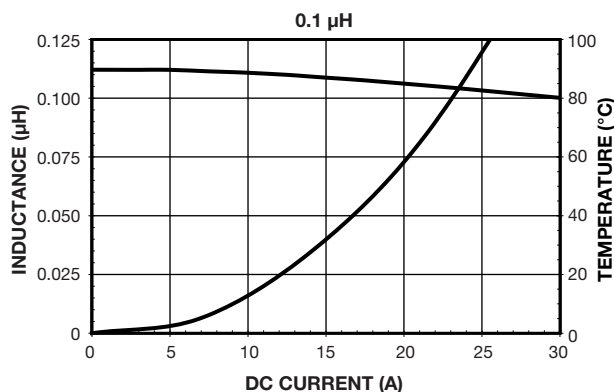
|                       |                  |                      |              |                                |
|-----------------------|------------------|----------------------|--------------|--------------------------------|
| <b>IHLP-2020BZ-01</b> | <b>3.3 µH</b>    | <b>± 20 %</b>        | <b>ER</b>    | <b>e3</b>                      |
| MODEL                 | INDUCTANCE VALUE | INDUCTANCE TOLERANCE | PACKAGE CODE | JEDEC® LEAD (Pb)-FREE STANDARD |

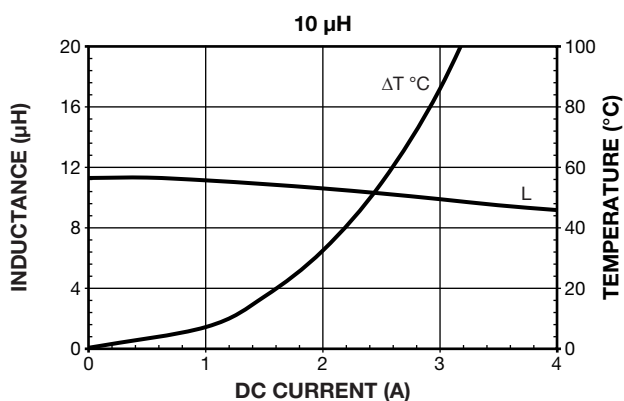
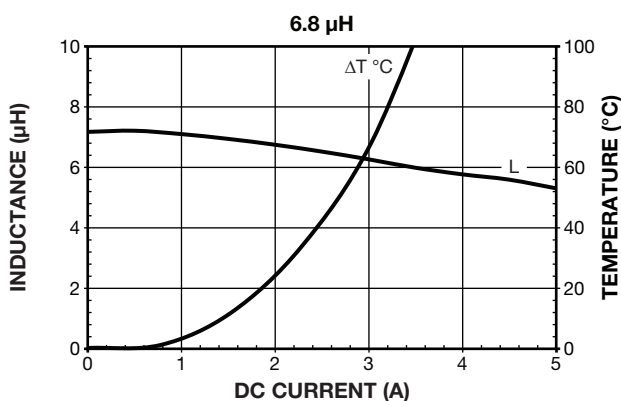
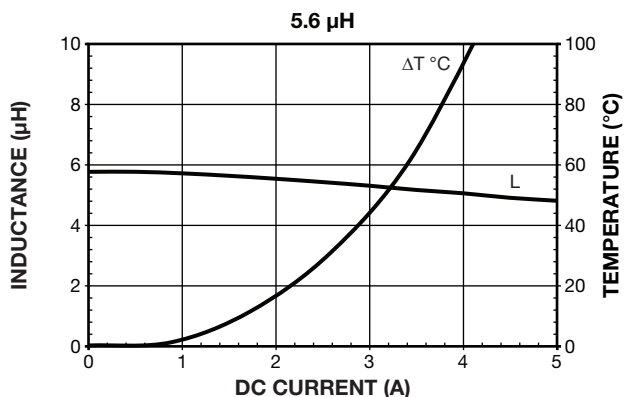
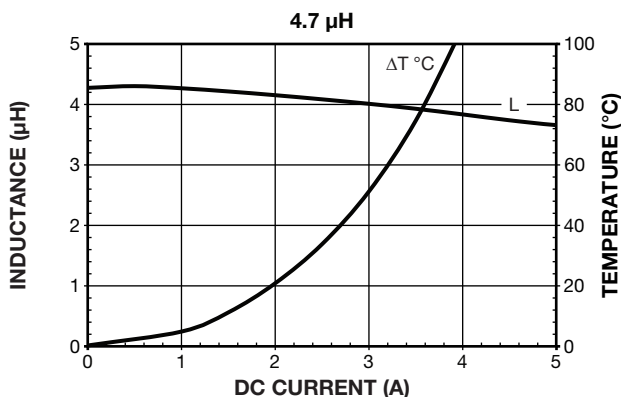
**GLOBAL PART NUMBER**

|                |                    |                    |                  |           |            |
|----------------|--------------------|--------------------|------------------|-----------|------------|
| <b>I H L P</b> | <b>2 0 2 0 B Z</b> | <b>E R</b>         | <b>3 R 3</b>     | <b>M</b>  | <b>0 1</b> |
| PRODUCT FAMILY | SIZE               | PACKAGE CODE       | INDUCTANCE VALUE | TOLERANCE | SERIES     |
|                |                    | ER = tape and reel | 3R3 = 3.3 Ω      | M = 20 %  |            |



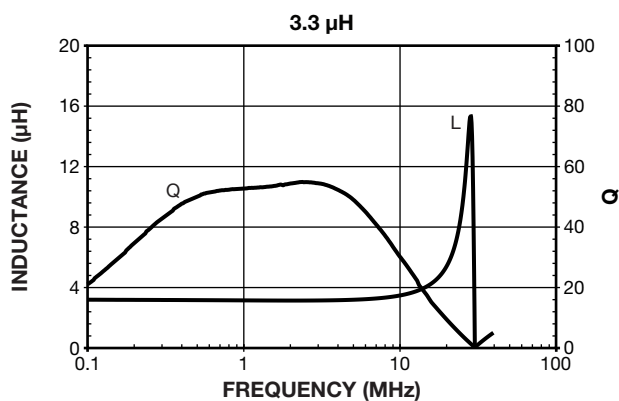
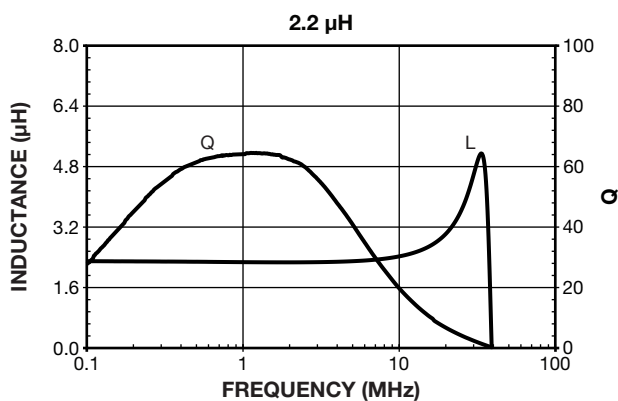
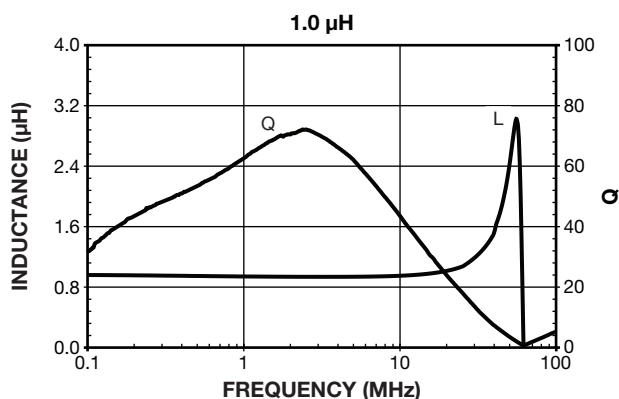
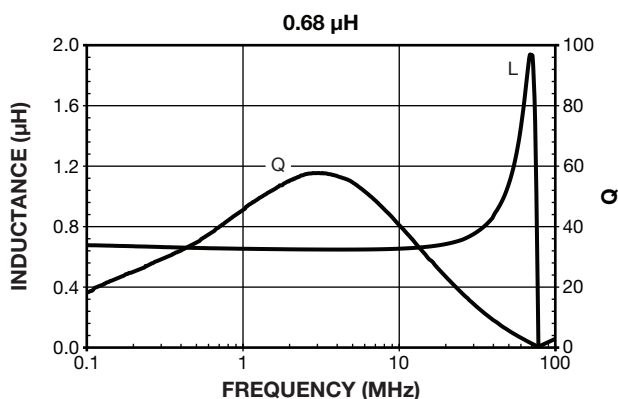
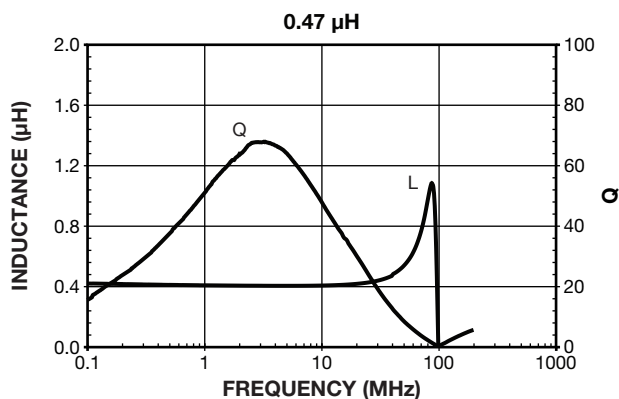
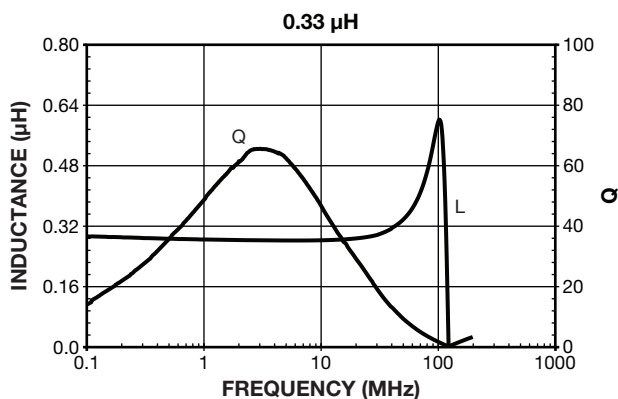
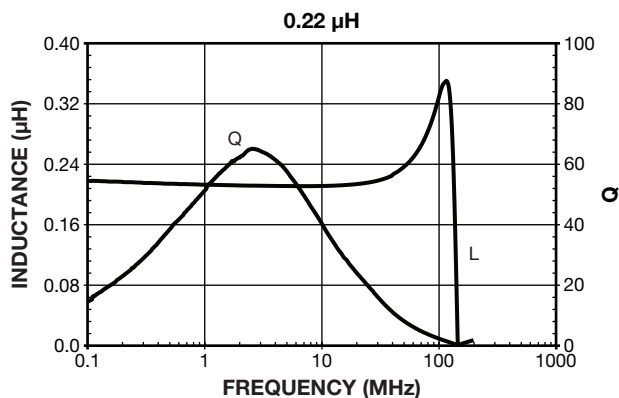
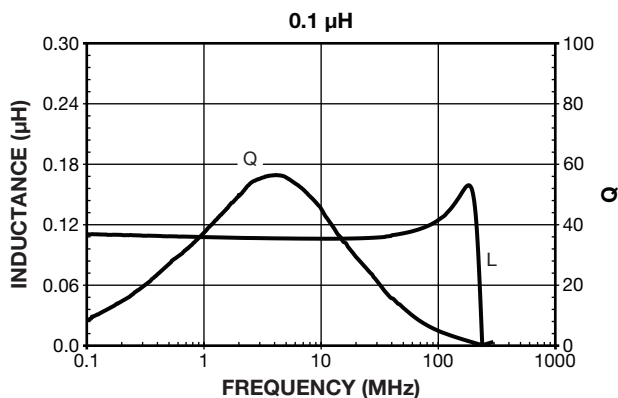
PERFORMANCE GRAPHS



**PERFORMANCE GRAPHS**


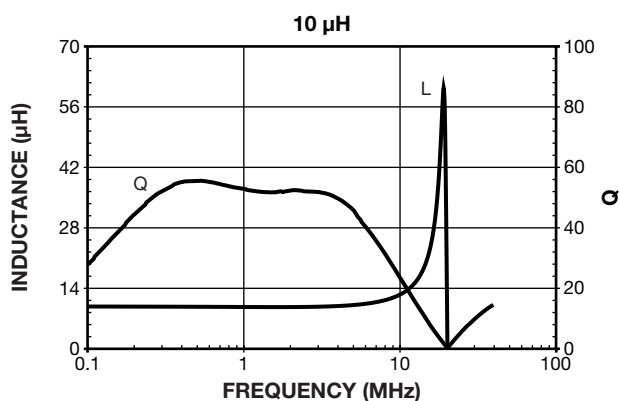
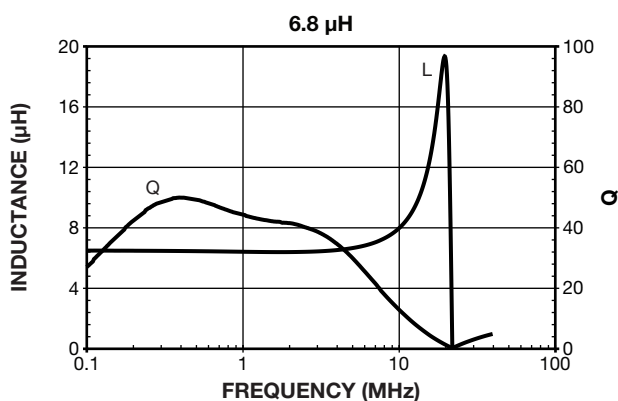
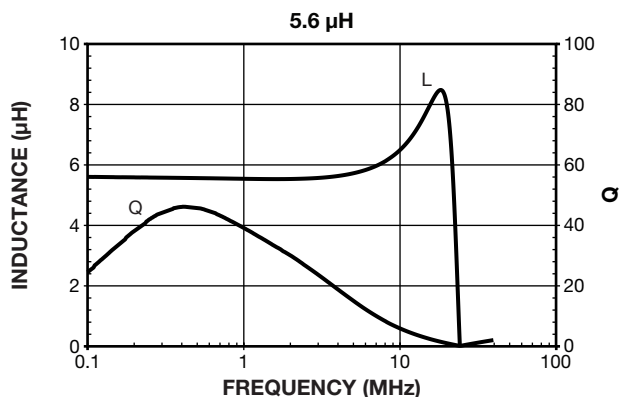
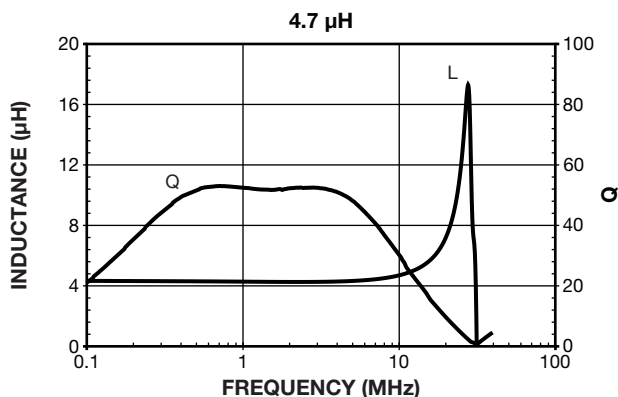


PERFORMANCE GRAPHS: INDUCTANCE AND Q VS. FREQUENCY





PERFORMANCE GRAPHS: INDUCTANCE AND Q VS. FREQUENCY





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