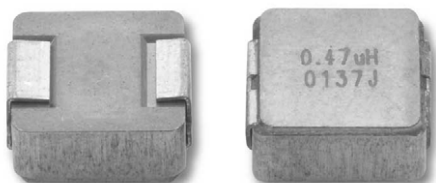


# **IHLP® Automotive Inductors, High Saturation Series**


**RoHS**  
COMPLIANT

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

## **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
- AEC-Q200 qualified
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)

## **LINKS TO ADDITIONAL RESOURCES**



## **APPLICATIONS**

- Automotive domain control units (DCU) and transmission / engine control
- DC/DC converters for infotainment, navigation systems, braking systems, LED lighting
- Power line noise suppression and filtering
- SSD modules, USB chargers

## **STANDARD ELECTRICAL SPECIFICATIONS**

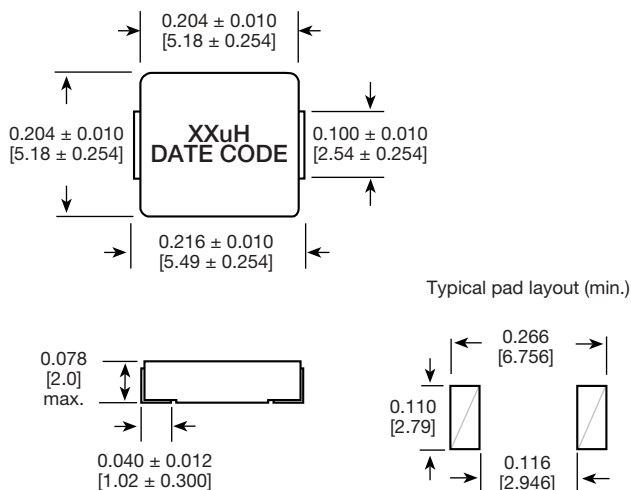
PART NUMBER	L <sub>0</sub> INDUCTANCE ± 20 % AT 100 kHz, 0.25 V, 0 A (μH)	DCR TYP. 25 °C (mΩ)	DCR MAX. 25 °C (mΩ)	HEAT RATING CURRENT DC TYP. (A) <sup>(1)</sup>	SATURATION CURRENT DC TYP. (A) <sup>(2)</sup>	SRF TYP. (MHz)
IHLP2020BZERR10MA1	0.10	3.6	3.9	17.0	45.0	239
IHLP2020BZERR22MA1	0.22	4.9	5.2	15.0	22.0	145
IHLP2020BZERR33MA1	0.33	7.6	8.2	12.0	25.0	125
IHLP2020BZERR47MA1	0.47	8.9	9.4	11.5	21.0	98
IHLP2020BZERR68MA1	0.68	11.2	12.4	10.0	15.0	77
IHLP2020BZER1R0MA1	1.0	18.9	20.0	7.0	16.0	62
IHLP2020BZER2R2MA1	2.2	45.6	50.1	4.2	9.5	39
IHLP2020BZER3R3MA1	3.3	79.2	85.5	3.3	8.5	30
IHLP2020BZER4R7MA1	4.7	108.0	116.6	2.8	5.0	28
IHLP2020BZER5R6MA1	5.6	113.0	122.0	2.5	4.5	24
IHLP2020BZER6R8MA1	6.8	139.0	150.0	2.4	4.3	21

### **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**

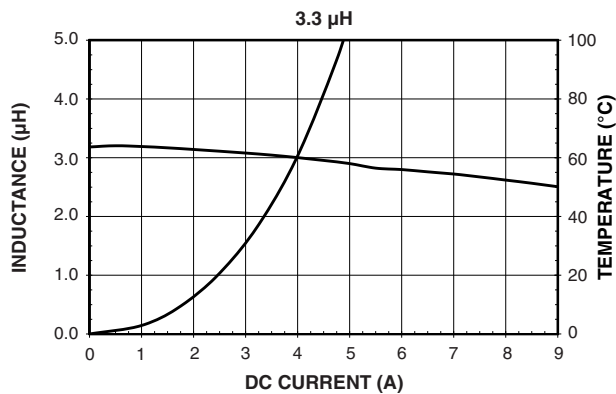
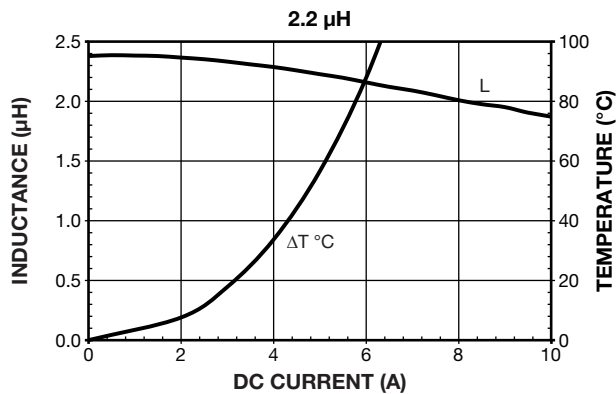
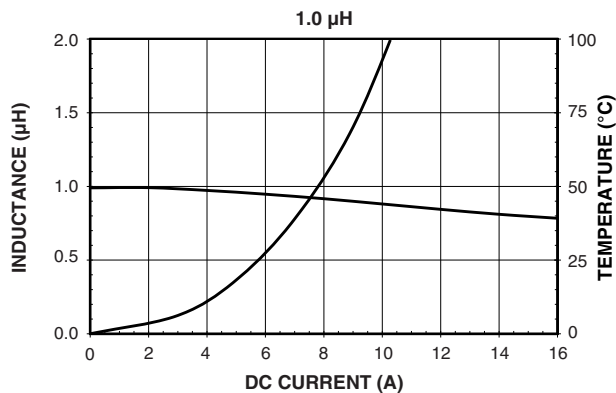
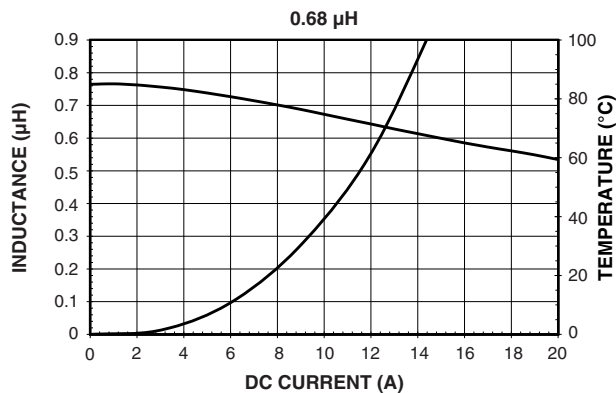
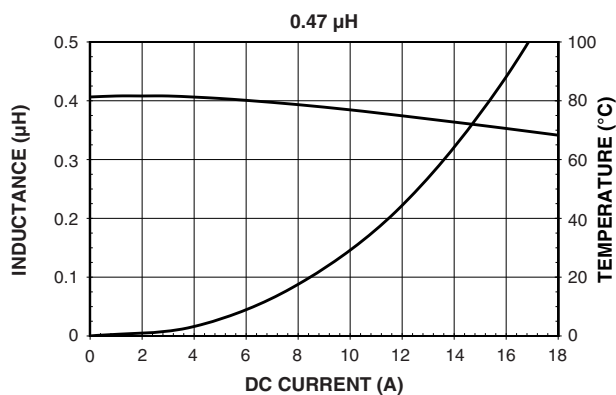
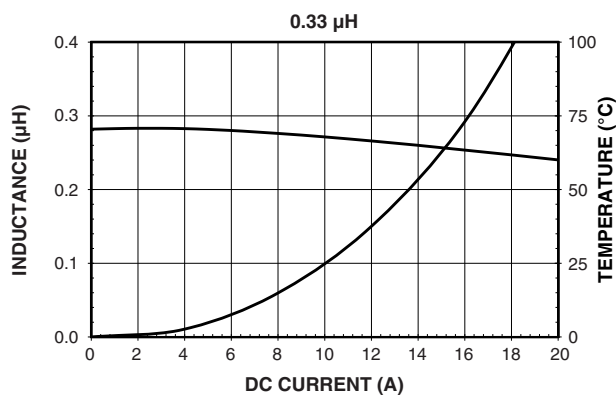
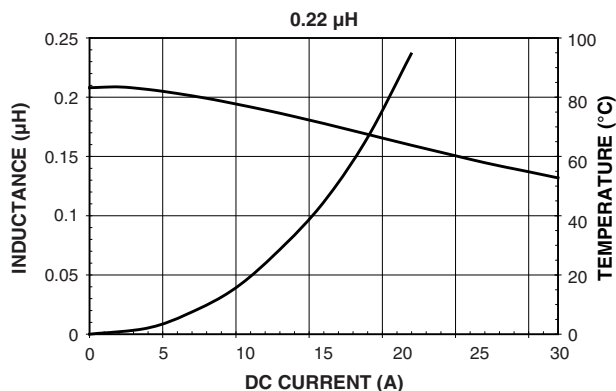
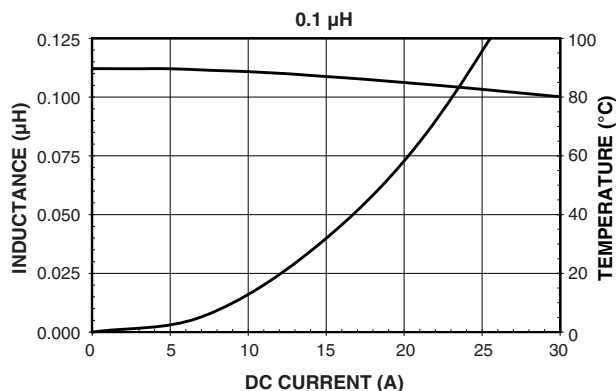
<b>IHLP-2020BZ-A1</b>	<b>3.3 <math>\mu</math>H</b>	<b><math>\pm 20\%</math></b>	<b>ER</b>	<b>e3</b>
MODEL	INDUCTANCE VALUE	INDUCTANCE TOLERANCE	PACKAGE CODE	JEDEC® LEAD (Pb)-FREE STANDARD

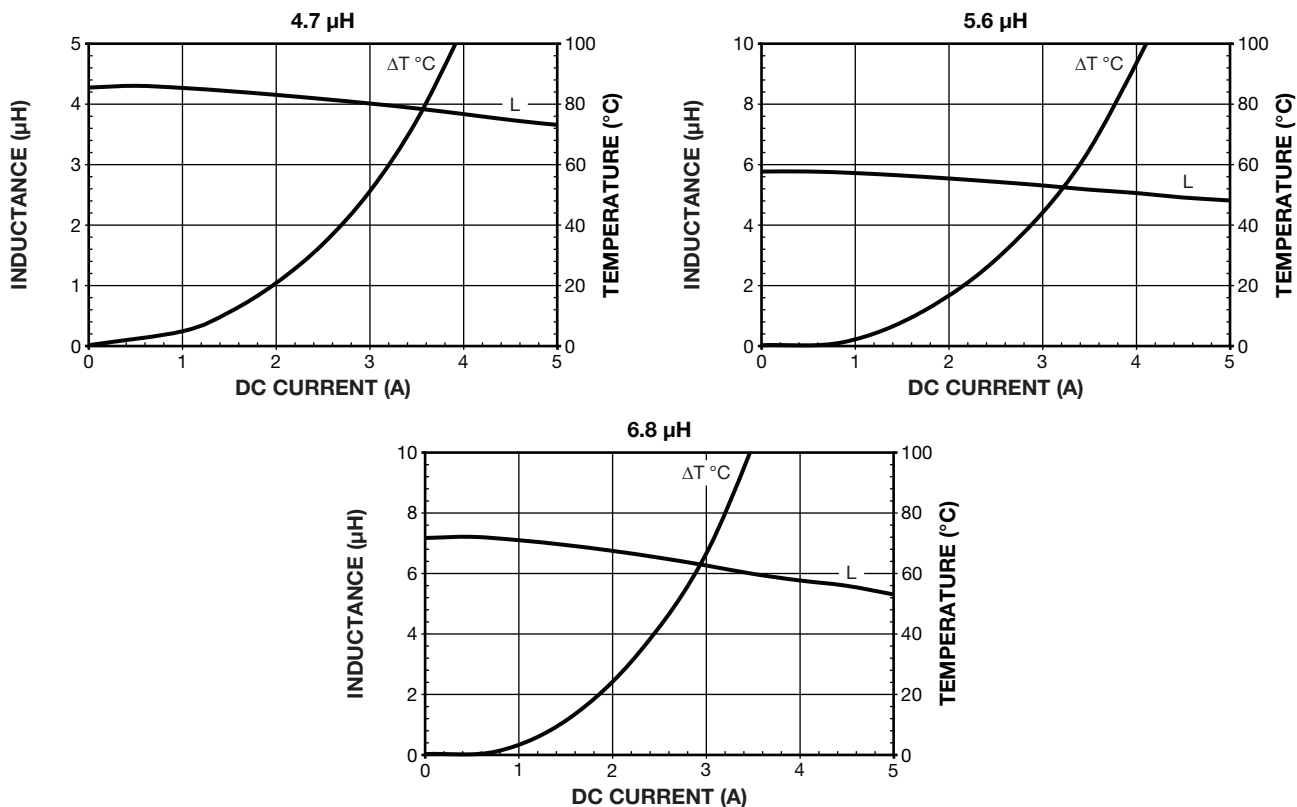
**GLOBAL PART NUMBER**

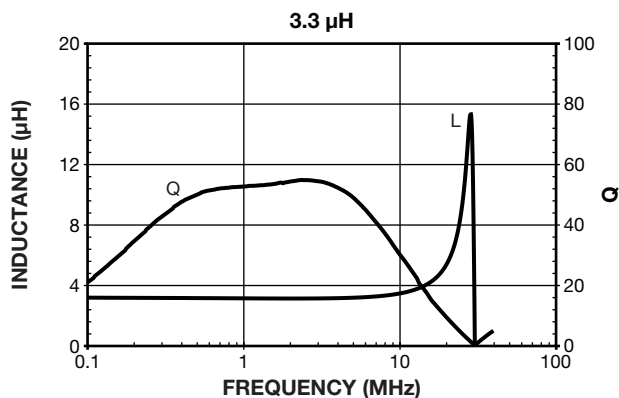
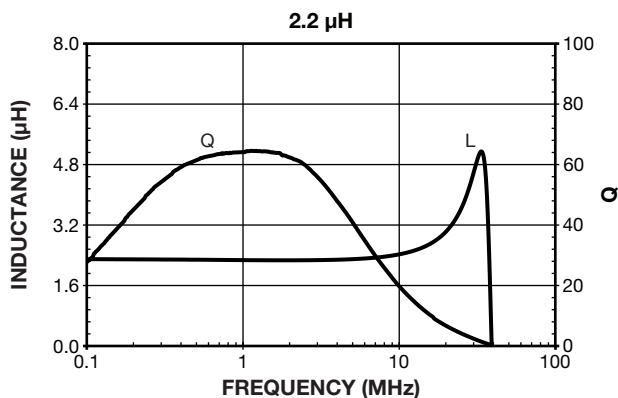
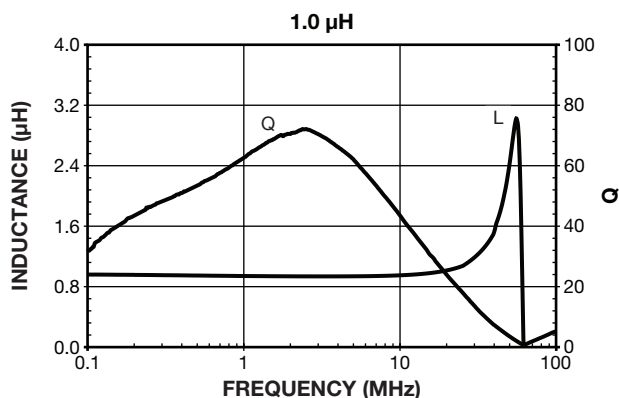
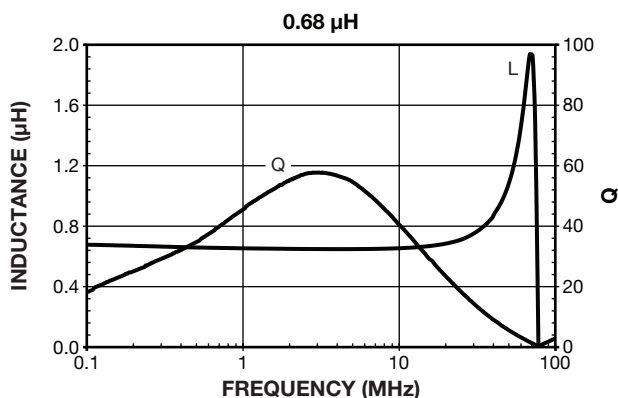
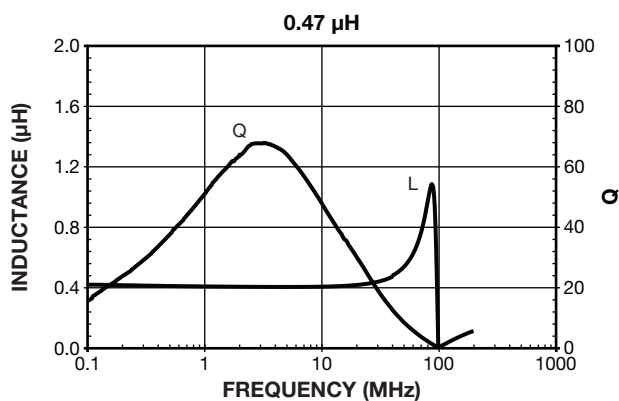
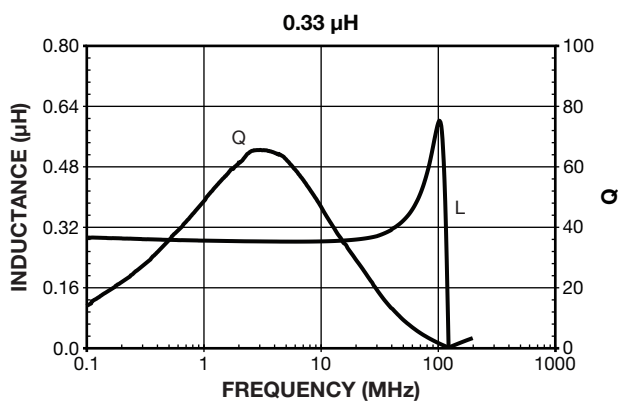
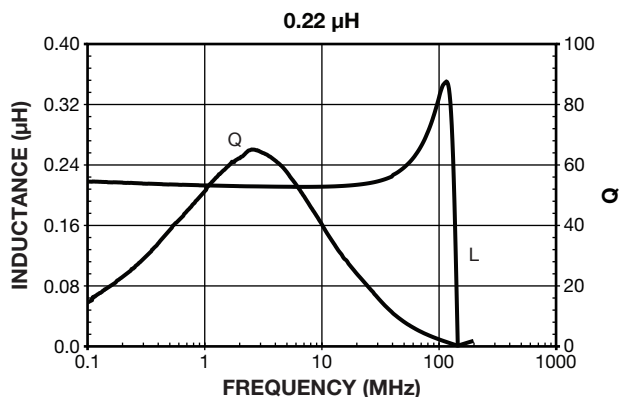
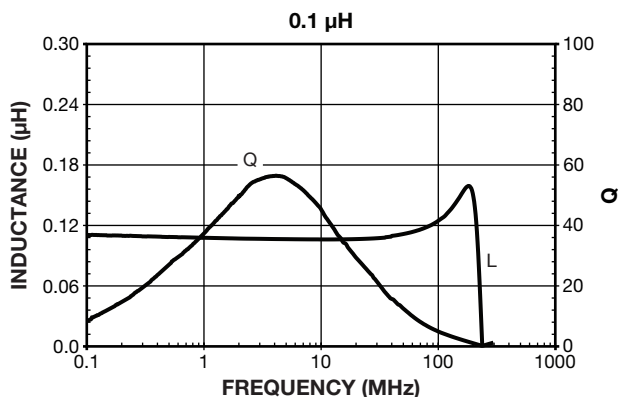
<b>I H L P</b>	<b>2 0 2 0 B Z</b>	<b>E R</b>	<b>3 R 3</b>	<b>M</b>	<b>A 1</b>
PRODUCT FAMILY	SIZE	PACKAGE CODE	INDUCTANCE VALUE	TOLERANCE	SERIES
<b>ER</b> = tape and reel			<b>3R3</b> = 3.3 $\Omega$	<b>M</b> = 20 %	



PERFORMANCE GRAPHS

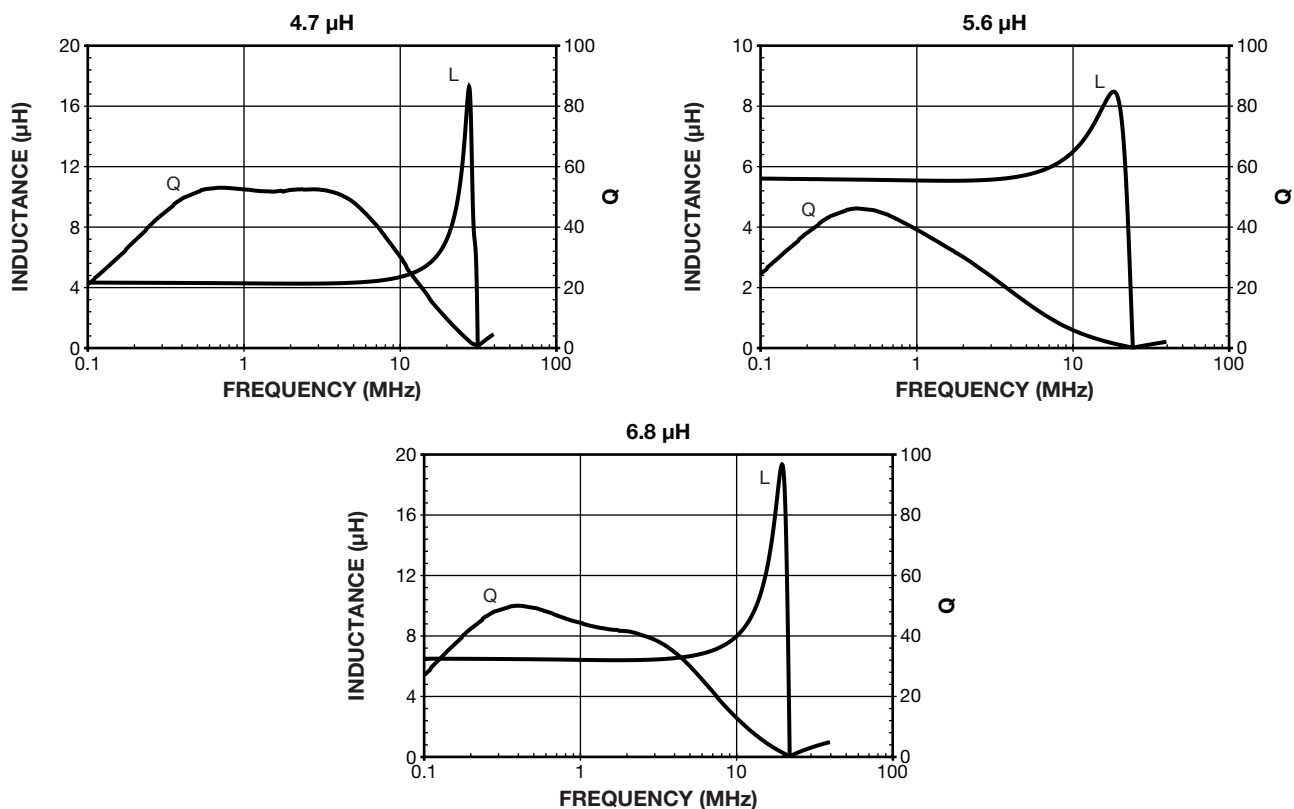


**PERFORMANCE GRAPHS**


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




PERFORMANCE GRAPHS: INDUCTANCE AND Q VS. FREQUENCY





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