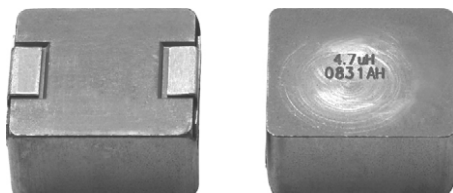


# **IHLP® Commercial Inductors, High Temperature (155 °C) Series**



## **LINKS TO ADDITIONAL RESOURCES**



3D Models



Design Tools

STANDARD ELECTRICAL SPECIFICATIONS						
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.		SRF TYP. (MHz)
				(A) <sup>(2)</sup>	(A) <sup>(3)</sup>	
0.22	1.00	1.07	49.0	54.4	79.0	121.9
0.47	1.26	1.36	38.0	37.5	54.5	67.4
1.0	2.75	2.94	34.7	29.1	42.8	38.7
1.2	3.00	3.22	29.6	22.4	33.0	36.9
1.5	3.51	3.78	28.2	23.0	34.0	31.7
2.2	5.05	5.42	23.6	18.1	26.7	22.1
3.3	7.90	8.45	17.3	14.1	20.6	19.1
4.7	11.4	12.2	12.2	9.2	13.4	15.4
10	20.7	22.2	9.7	8.7	12.6	11.2
15	28.1	30.0	8.4	7.2	10.6	9.0
22	49.0	52.4	6.3	6.4	9.3	6.9
47	112.4	120.9	3.6	4.4	6.5	4.5

### **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
- <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 %

## **FEATURES**

- High temperature, up to 155 °C
- Shielded construction
- Excellent DC/DC energy storage up to 1 MHz to 2 MHz. Filter inductor applications up the 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
- 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)

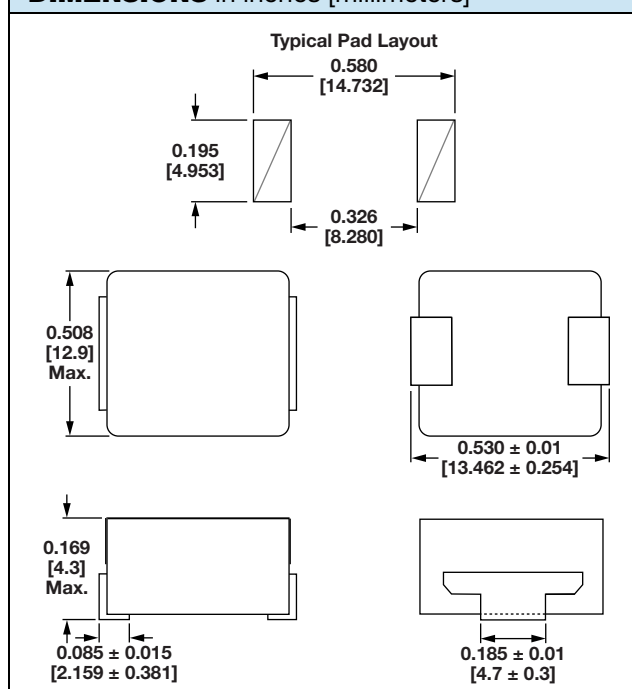


**RoHS**  
 COMPLIANT  
 HALOGEN  
**FREE**  
**GREEN**  
 (5-2008)

## **APPLICATIONS**

- PDA / notebook / desktop / server applications
- High current POL converters
- Low profile, high current power supplies
- Battery powered devices
- DC/DC converters in distributed power systems
- DC/DC converter for field programmable gate array (FPGA)

## **DIMENSIONS in inches [millimeters]**



**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.



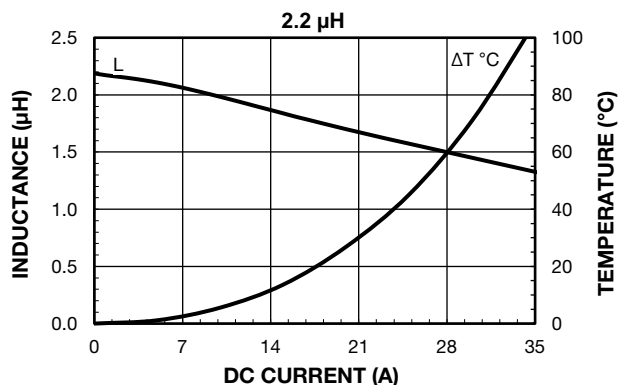
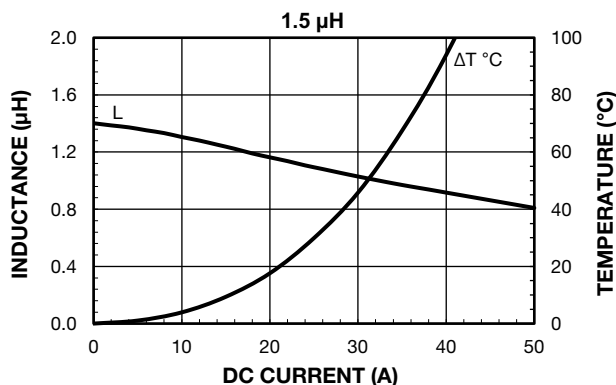
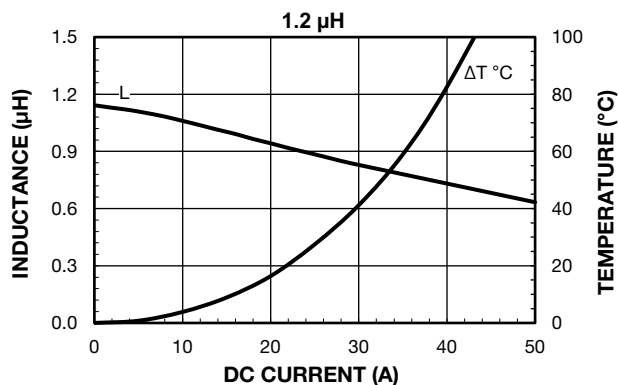
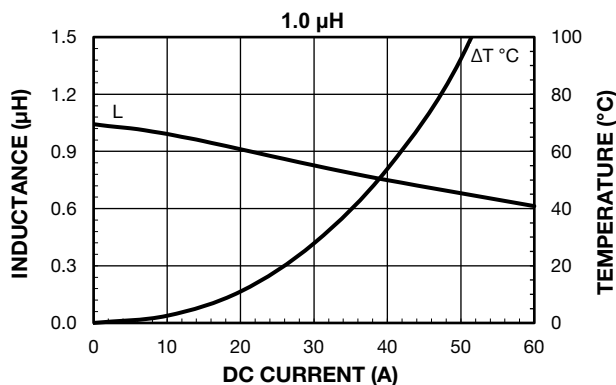
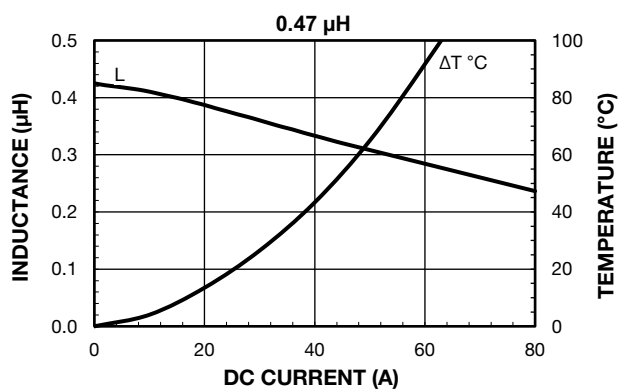
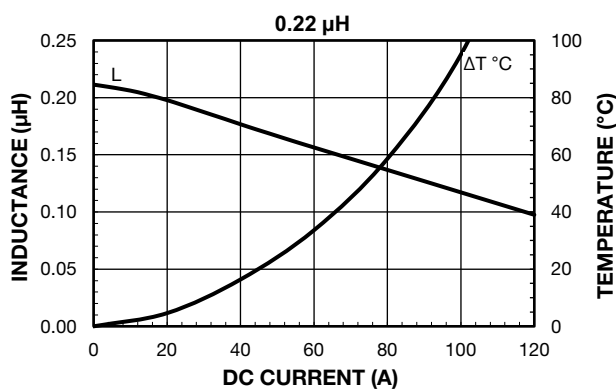
## DESCRIPTION

IHLP-5050DC-51	1.0 $\mu$ H	$\pm 20\%$	ER	e3
MODEL	INDUCTANCE VALUE	INDUCTANCE TOLERANCE	PACKAGE CODE	JEDEC® LEAD (Pb)-FREE STANDARD

## GLOBAL PART NUMBER

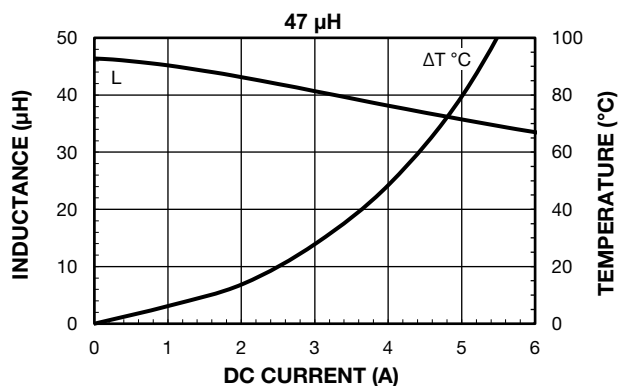
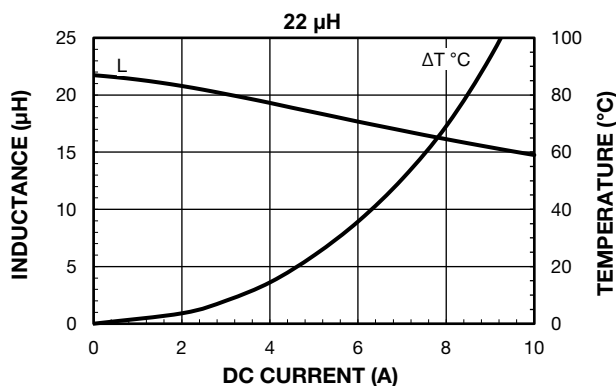
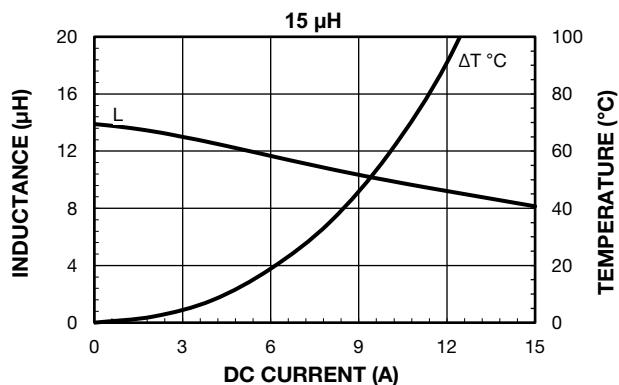
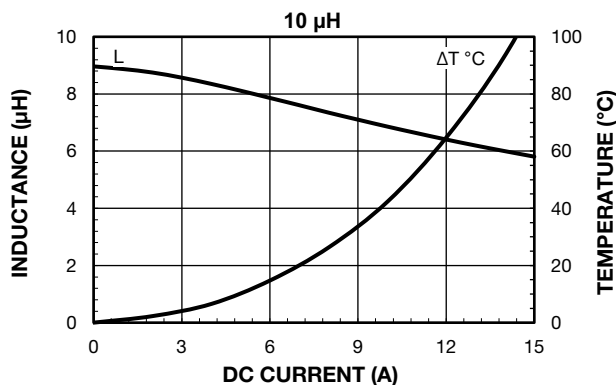
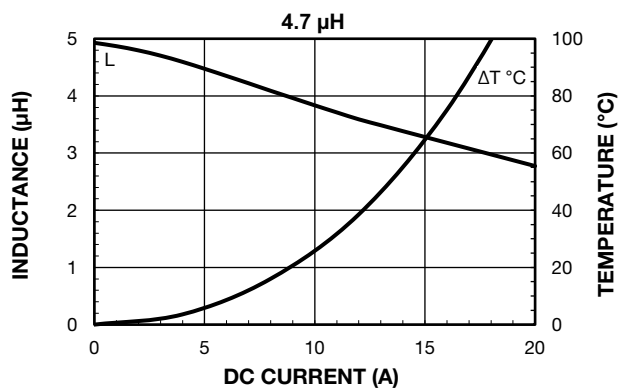
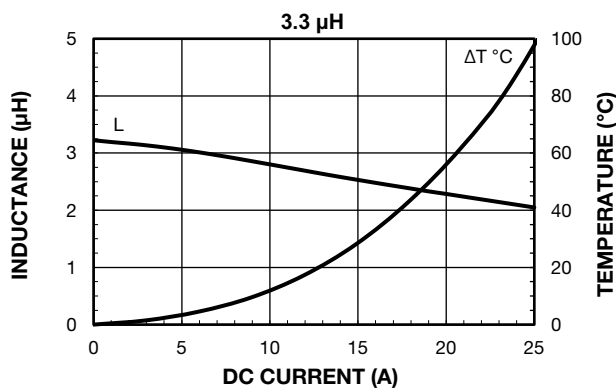
I	H	L	P	5	0	5	0	D	C	E	R	1	R	0	M	5	1
MODEL				SIZE						PACKAGE CODE		INDUCTANCE VALUE			TOL.	SERIES	

## PERFORMANCE GRAPHS



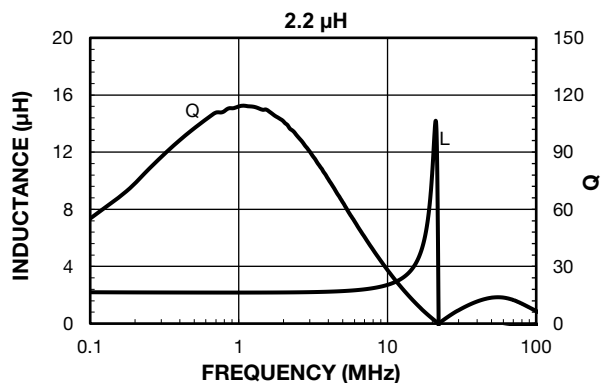
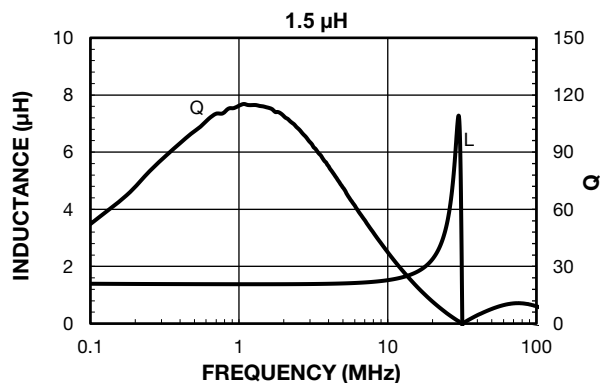
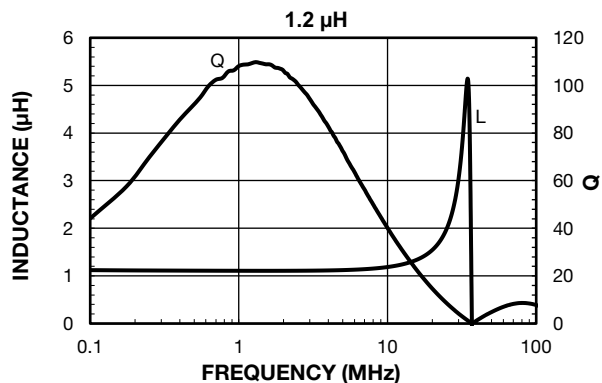
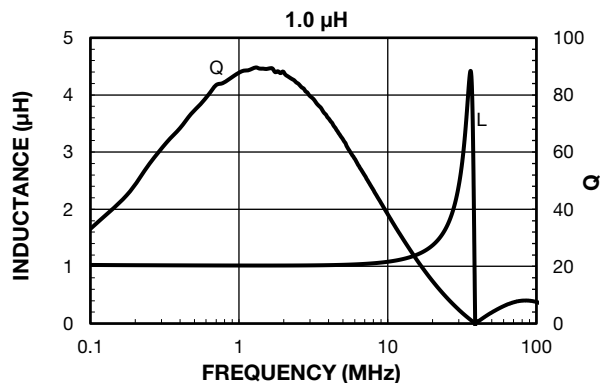
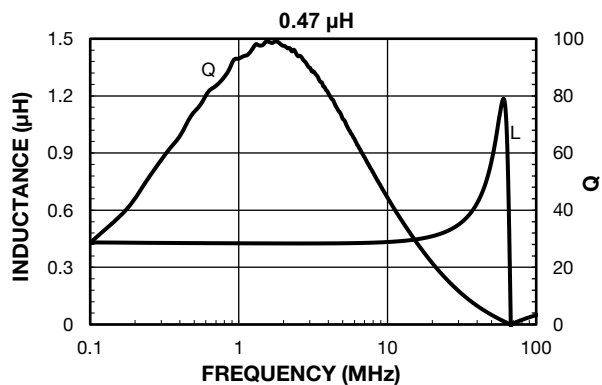
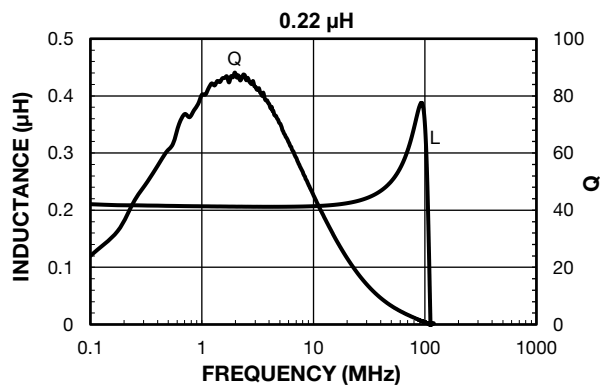


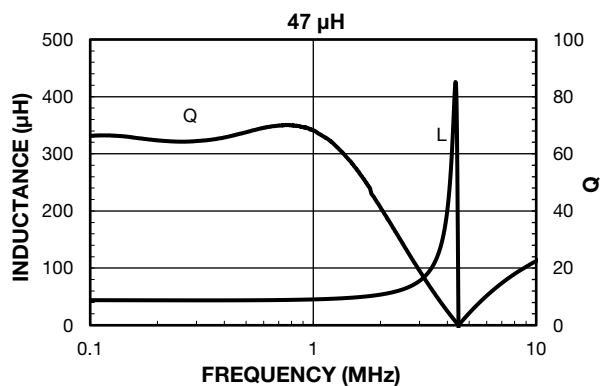
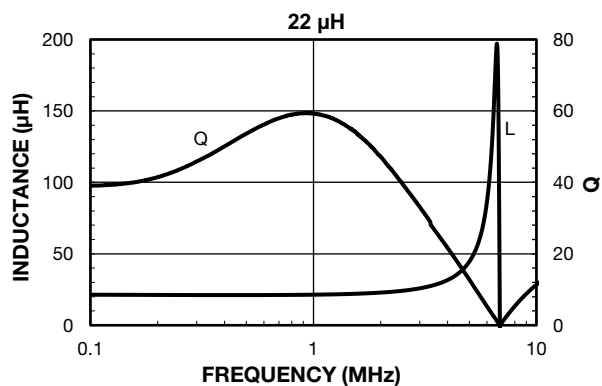
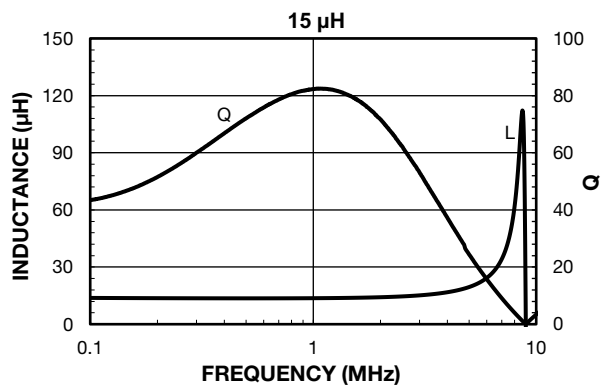
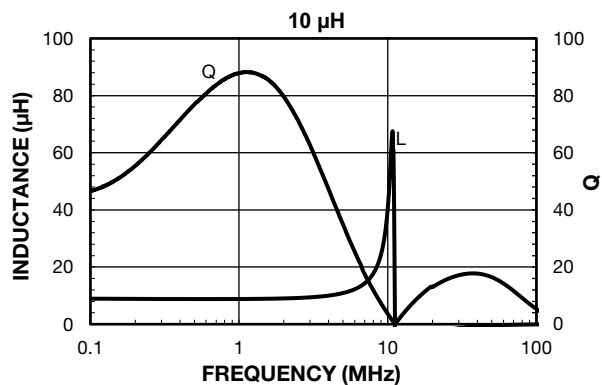
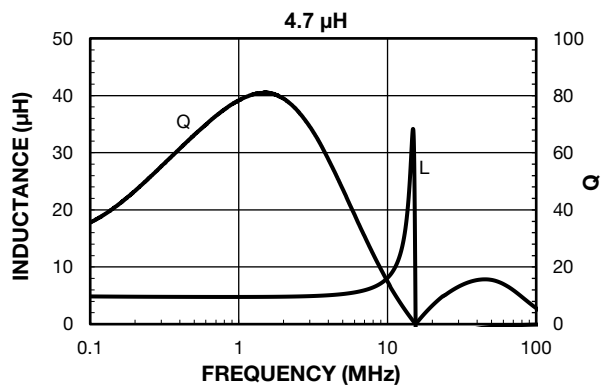
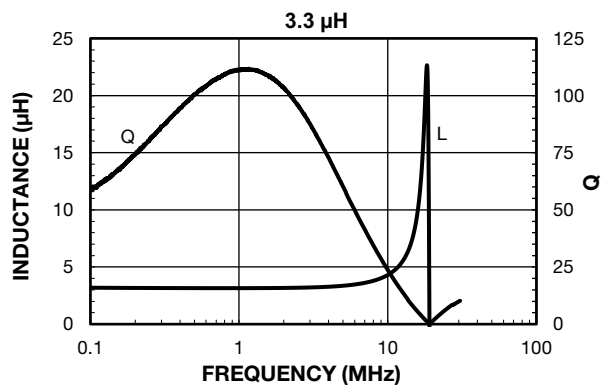
PERFORMANCE GRAPHS





PERFORMANCE GRAPHS: INDUCTANCE AND Q VS. FREQUENCY



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




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