

## Low Profile, High Current IHLP® Inductors



Manufactured under one or more of the following:  
**US Patents: 6,198,375/6,204,744/6,449,829/6,460,244.**  
Several foreign patents, and other patents pending.

### FEATURES

- High temperature, up to 180 °C
- Shielded construction
- Frequency range up to 1 MHz
- Lowest DCR/ $\mu$ H, 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)



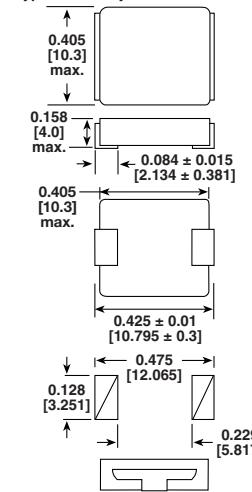
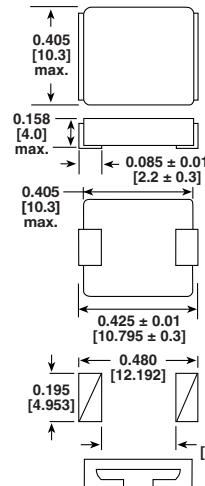
**RoHS**
**COMPLIANT**
**HALOGEN**
**FREE**
**GREEN**
*(S-2008)*

### 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 blowers
  - HID lighting
- LED drivers

### DIMENSIONS in inches [millimeters]

Typical Pad Layout


The diagram above applies to values 2.2  $\mu$ H and above.

The diagram above applies to values 1.0  $\mu$ H and below.

### STANDARD ELECTRICAL SPECIFICATIONS

$L_0$ INDUCTANCE $\pm 20\%$ AT 100 kHz, 0.25 V, 0 A ( $\mu$ H)	DCR TYP. 25 °C (m $\Omega$ )	DCR MAX. 25 °C (m $\Omega$ )	HEAT RATING CURRENT DC TYP. (A) <sup>(3)</sup>	SATURATION CURRENT DC TYP. (A) <sup>(4)</sup>
0.47	1.55	1.66	30.0	28.5
1.0	2.87	3.07	23.5	24.0
2.2	8.15	8.76	15	12
3.3	11.0	11.81	11.0	12.0
4.7	14.3	15.32	9.8	9.2
5.6	16.5	17.60	9.3	9.0
6.8	20.9	22.36	9.1	9.0
10	30.9	33.06	6.5	8.5
15	47.0	50.29	5.1	7.7
22	70.5	75.44	4.1	6.4
33	110	117.70	3.7	4.2
47	167	178	2.5	4.5

#### Notes

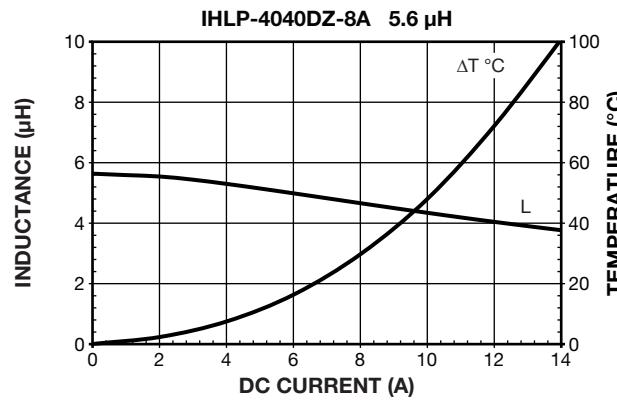
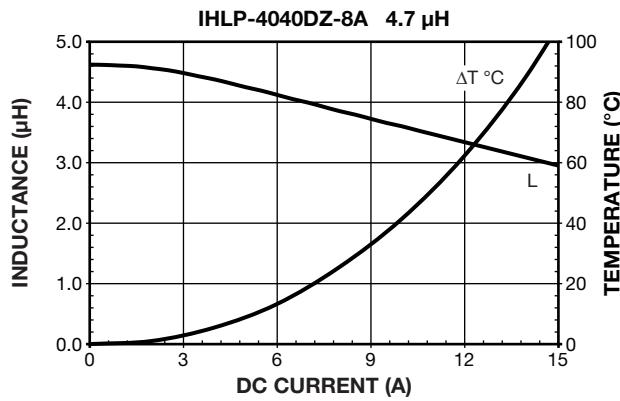
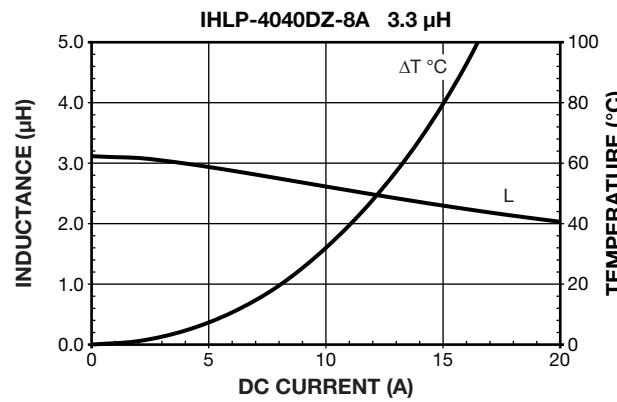
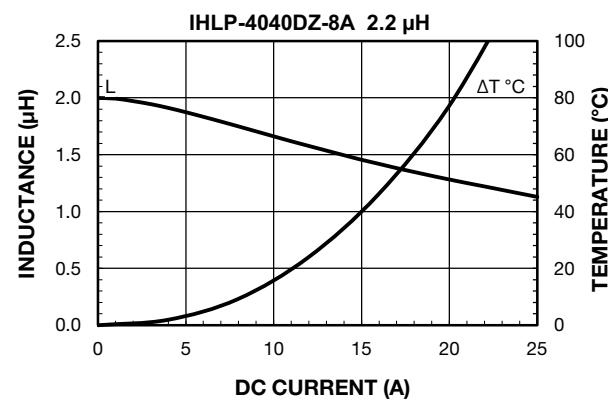
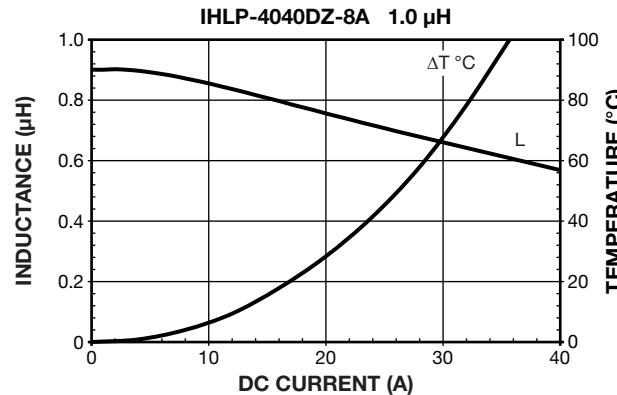
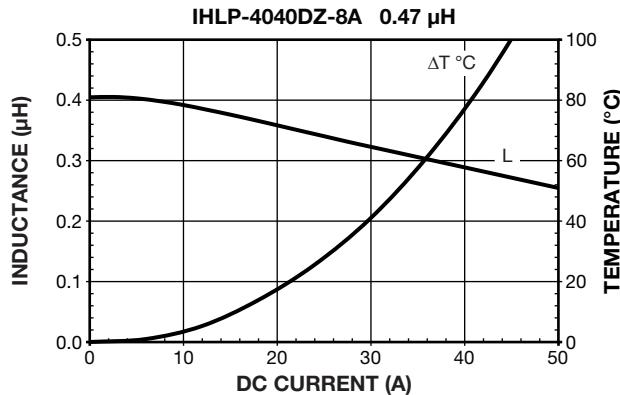
- (1) All test data is referenced to 25 °C ambient
- (2) Operating temperature range -55 °C to +180 °C
- (3) DC current (A) that will cause an approximate  $\Delta T$  of 40 °C
- (4) DC current (A) that will cause  $L_0$  to drop approximately 20 %
- (5) The part temperature (ambient + temp. rise) should not exceed 180 °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.
- (6) Maximum recommended operating voltage (across inductor) = 200 V

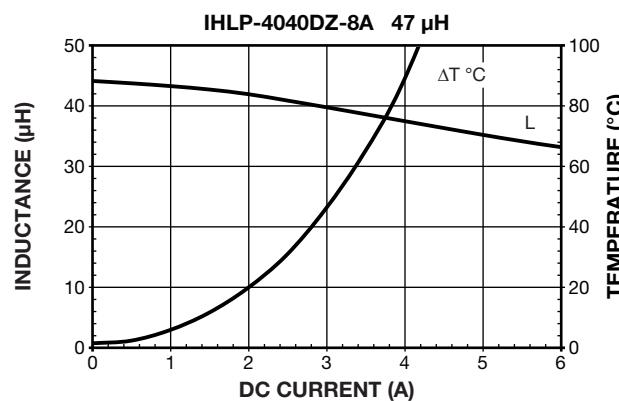
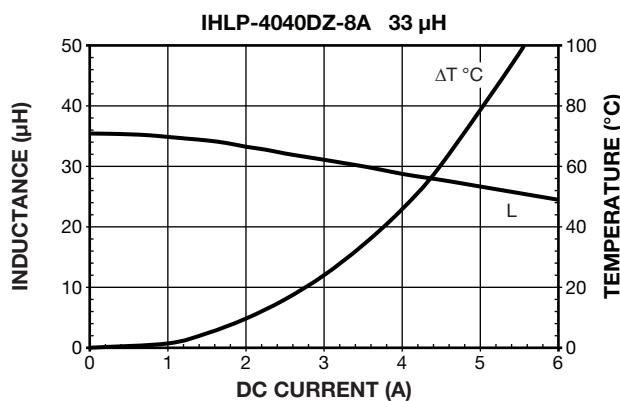
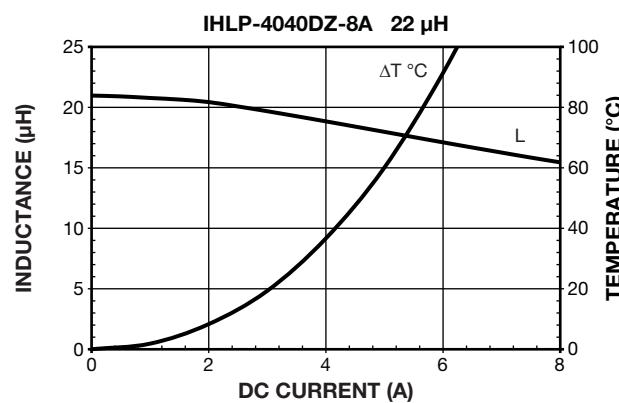
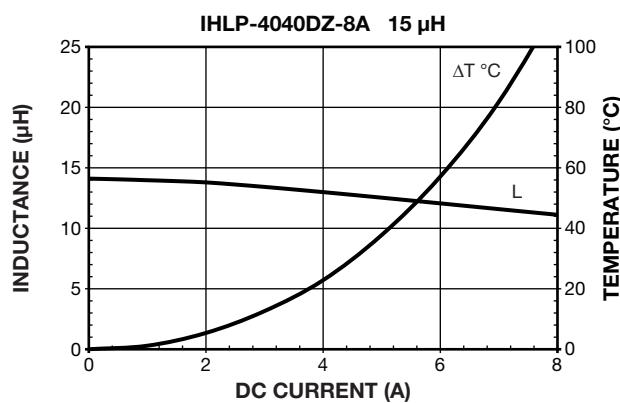
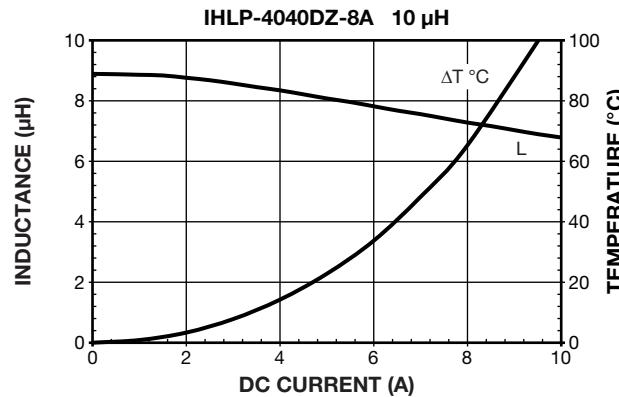
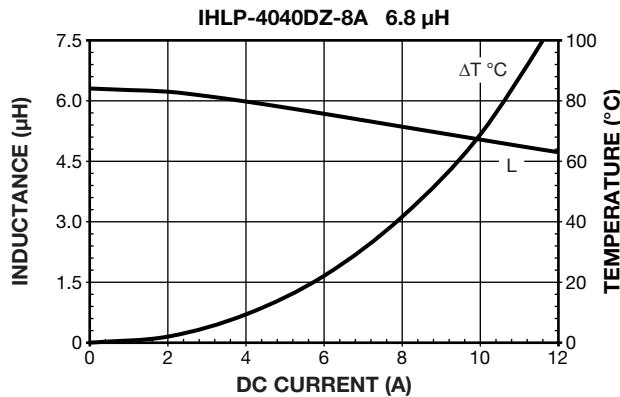
### DESCRIPTION

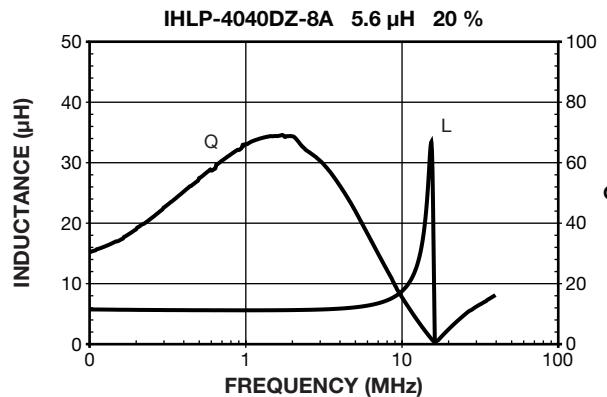
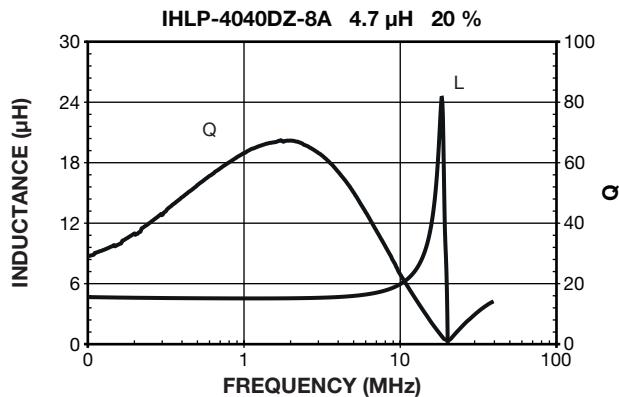
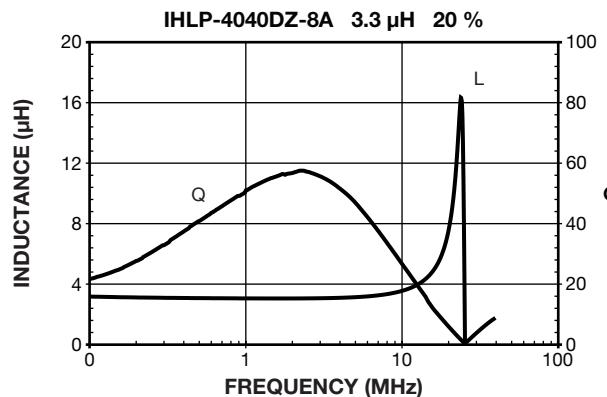
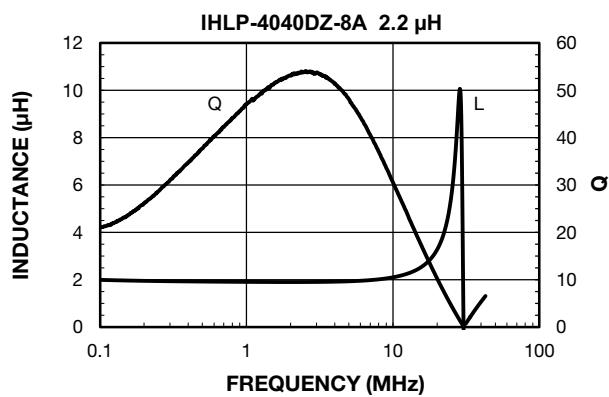
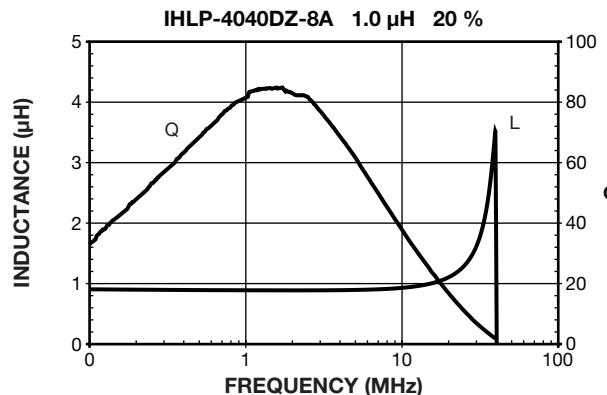
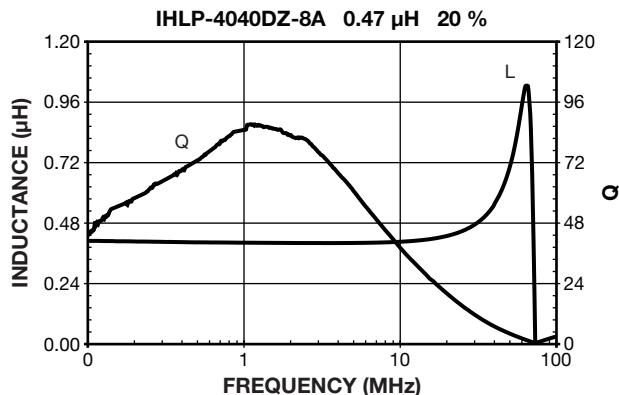
IHLP-4040DZ-8A	4.7 $\mu$ H	$\pm 20\%$	ER	e3
MODEL	INDUCTANCE VALUE	INDUCTANCE TOLERANCE	PACKAGE CODE	JEDEC LEAD (Pb)-FREE STANDARD

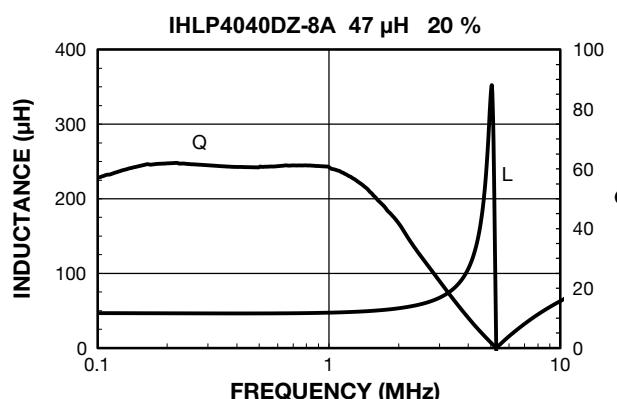
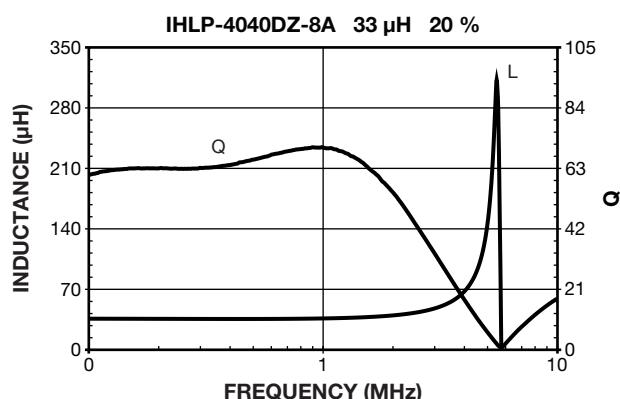
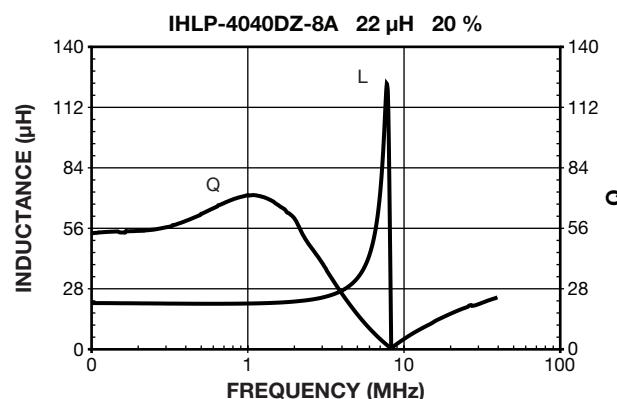
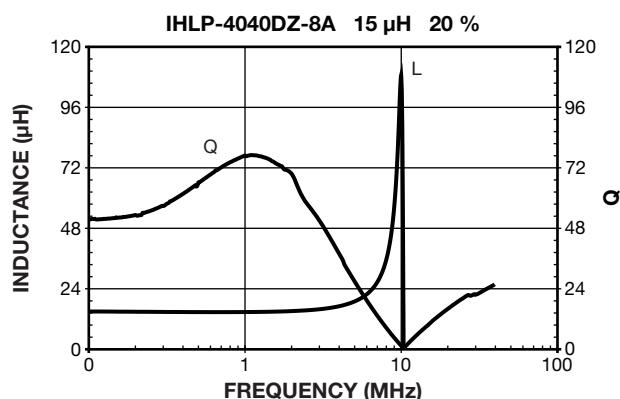
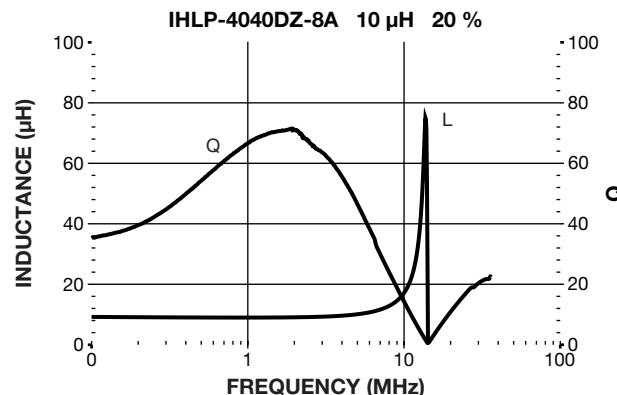
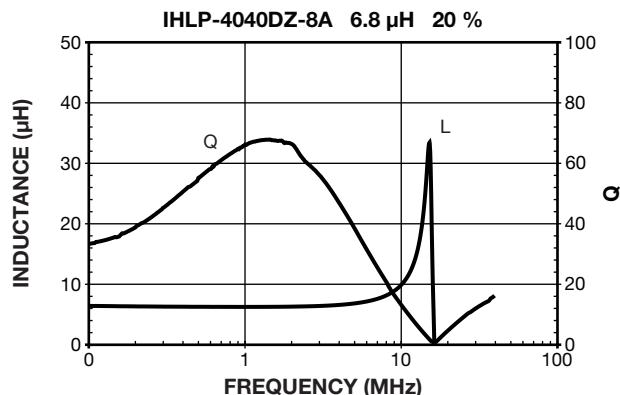
### GLOBAL PART NUMBER

I	H	L	P	4	0	4	0	D	Z	E	R	4	R	7	M	8	A	
PRODUCT FAMILY				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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