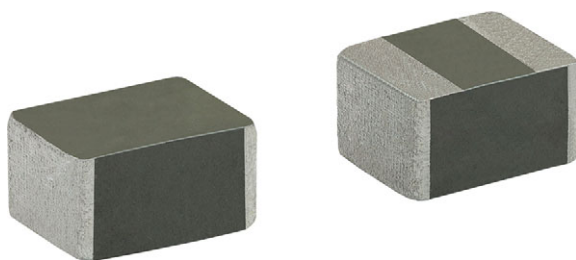


# **IHLP® Automotive Inductors, High Temperature (165 °C) Series**



## **FEATURES**

- 3.2 mm x 2.5 mm x 2.0 mm SMD package
- Handles high transient current spikes without saturation
- Magnetically shielded composite construction
- Side and bottom plated terminals for improved shock and vibration performance and solder inspection
- Excellent stability of inductance versus temperature up to 165 °C
- 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

## **APPLICATIONS**

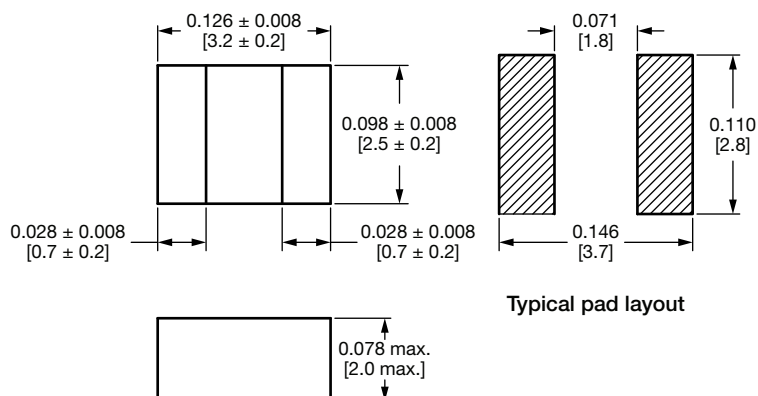
- PDA / notebook / server applications
- High current POL converters
- Low profile, high current power supplies
- Battery powered devices
- DC/DC converters in distributed power systems
- DC/DC converter for field programmable gate array (FPGA)

## **STANDARD ELECTRICAL SPECIFICATIONS**

| PART NUMBER        | L <sub>0</sub> INDUCTANCE<br>± 20 % AT 0 A<br>(μH) | DCR TYP.<br>25 °C<br>(mΩ) | DCR MAX.<br>25 °C<br>(mΩ) | HEAT RATING<br>CURRENT DC TYP.<br>(A) <sup>(1)</sup> | SATURATION CURRENT DC TYP.<br>(A) |                          |
|--------------------|----------------------------------------------------|---------------------------|---------------------------|------------------------------------------------------|-----------------------------------|--------------------------|
|                    |                                                    |                           |                           |                                                      | 20 % DROP <sup>(2)</sup>          | 30 % DROP <sup>(3)</sup> |
| IHLP1210BZEZR33M5Z | 0.33                                               | 8.5                       | 10                        | 14.5                                                 | 10.3                              | 13.5                     |
| IHLP1210BZEZR47M5Z | 0.47                                               | 9.2                       | 11                        | 12                                                   | 8.2                               | 10.2                     |
| IHLP1210BZEZR68M5Z | 0.68                                               | 13                        | 16.5                      | 9.0                                                  | 7.1                               | 9.0                      |
| IHLP1210BZEZ1R0M5Z | 1.0                                                | 19                        | 23                        | 7.2                                                  | 7.0                               | 8.4                      |
| IHLP1210BZEZ1R5M5Z | 1.5                                                | 26                        | 31                        | 6.3                                                  | 6.6                               | 7.6                      |
| IHLP1210BZEZ2R2M5Z | 2.2                                                | 35                        | 46                        | 5.4                                                  | 5.0                               | 6.2                      |
| IHLP1210BZEZ3R3M5Z | 3.3                                                | 63                        | 70                        | 4.2                                                  | 4.0                               | 5.2                      |
| IHLP1210BZEZ4R7M5Z | 4.7                                                | 98                        | 108                       | 3.0                                                  | 3.5                               | 4.3                      |

### **Notes**

- All test data is referenced to 25 °C ambient
  - Test condition: 1 MHz, 1 V
  - Operating temperature range -55 °C to +165 °C
  - Rated operating voltage (across inductor) = 30 V
  - The part temperature (ambient + temp. rise) should not exceed the maximum rating 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
- <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 %

**DIMENSIONS** in inches [millimeters]


No part marking

**DESCRIPTION**

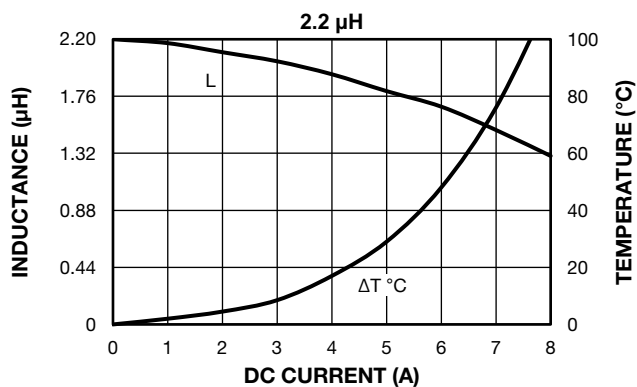
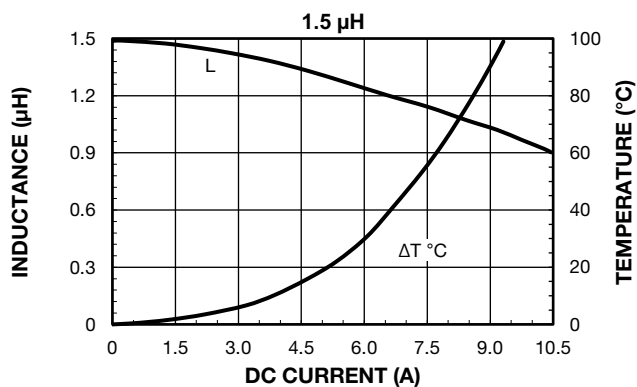
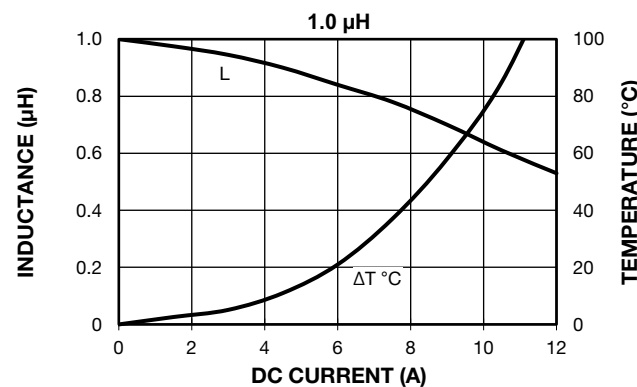
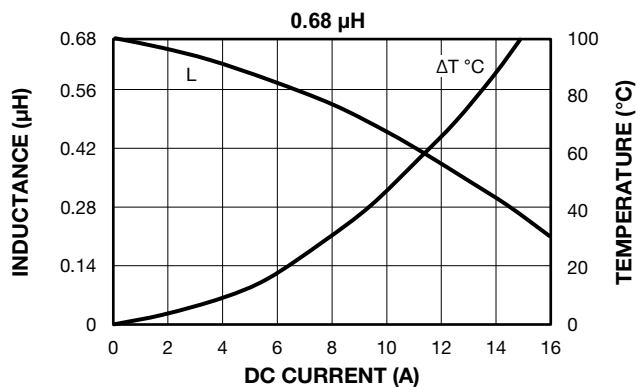
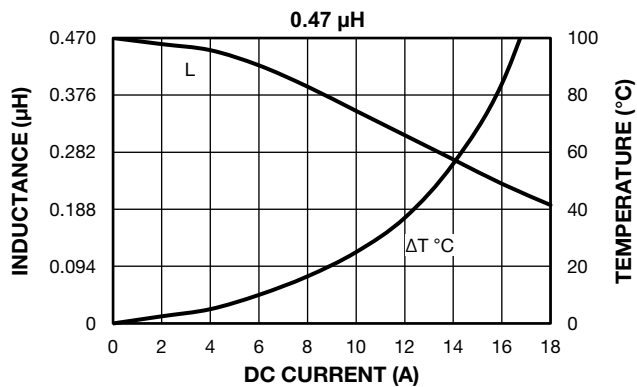
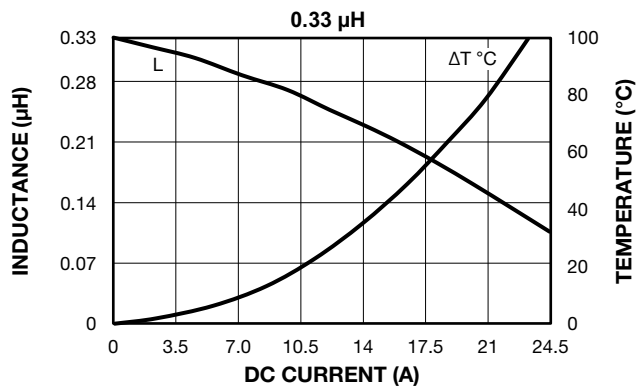
|                        |                               |                              |              |                                |
|------------------------|-------------------------------|------------------------------|--------------|--------------------------------|
| <b>IHLP1210BZEZ-5Z</b> | <b>0.47 <math>\mu</math>H</b> | <b><math>\pm 20\%</math></b> | <b>EZ</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>1 2 1 0 B Z</b> | <b>E Z</b>                | <b>R 4 7</b>              | <b>M</b>              | <b>5 Z</b> |
| PRODUCT FAMILY | SIZE               | PACKAGE CODE              | INDUCTANCE VALUE          | INDUCTANCE TOLERANCE  | SERIES     |
|                |                    | <b>EZ</b> = tape and reel | <b>R47</b> = 0.47 $\mu$ H | <b>M</b> = $\pm 20\%$ |            |

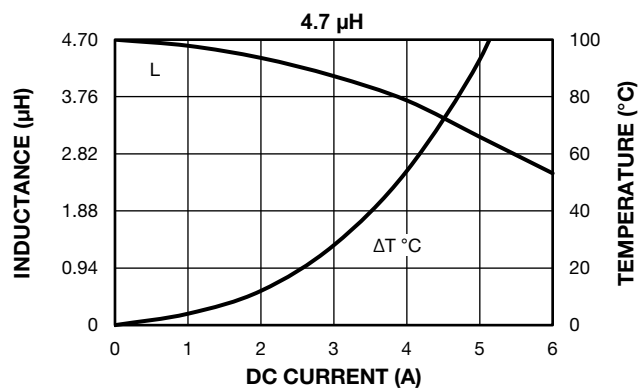
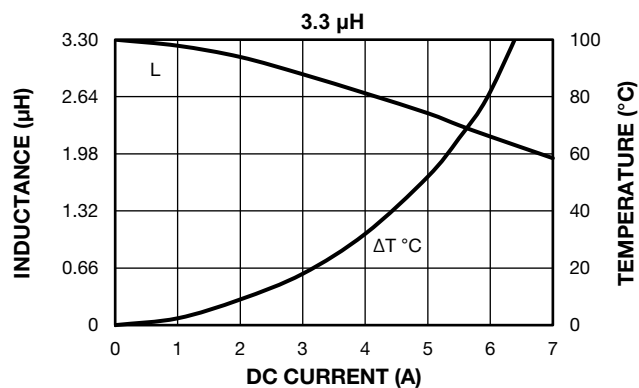


PERFORMANCE GRAPHS





PERFORMANCE GRAPHS





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