

# IHLP® Commercial Inductors, High Saturation Series



## LINKS TO ADDITIONAL RESOURCES



3D Models



Design Tools

| STANDARD ELECTRICAL SPECIFICATIONS                                           |                              |                              |                                                                 |                                                        |
|------------------------------------------------------------------------------|------------------------------|------------------------------|-----------------------------------------------------------------|--------------------------------------------------------|
| L <sub>0</sub><br>INDUCTANCE<br>± 20 % AT 100<br>kHz,<br>0.25 V, 0 A<br>(μH) | DCR<br>TYP.<br>25 °C<br>(mΩ) | DCR<br>MAX.<br>25 °C<br>(mΩ) | HEAT<br>RATING<br>CURRENT<br>T<br>DC TYP.<br>(A) <sup>(1)</sup> | SATURATION<br>CURRENT<br>DC TYP.<br>(A) <sup>(2)</sup> |
| 0.10                                                                         | 0.53                         | 0.60                         | 55                                                              | 118                                                    |
| 0.22                                                                         | 0.64                         | 0.80                         | 51                                                              | 110                                                    |
| 0.33                                                                         | 0.85                         | 1.1                          | 42                                                              | 80                                                     |
| 0.47                                                                         | 1.1                          | 1.3                          | 38                                                              | 65                                                     |
| 0.56                                                                         | 1.3                          | 1.5                          | 36                                                              | 55                                                     |
| 0.68                                                                         | 1.5                          | 1.7                          | 34                                                              | 54                                                     |
| 0.82                                                                         | 2.0                          | 2.3                          | 31                                                              | 53                                                     |
| 1.0                                                                          | 2.1                          | 2.5                          | 29                                                              | 50                                                     |
| 1.5                                                                          | 3.4                          | 4.1                          | 23                                                              | 48                                                     |
| 1.8                                                                          | 4.2                          | 4.9                          | 19                                                              | 40                                                     |
| 2.2                                                                          | 4.6                          | 5.5                          | 20                                                              | 32                                                     |
| 3.3                                                                          | 7.7                          | 9.2                          | 15                                                              | 32                                                     |
| 4.7                                                                          | 12.8                         | 15.0                         | 12                                                              | 27                                                     |
| 5.6                                                                          | 14.0                         | 16.5                         | 11.5                                                            | 22                                                     |
| 6.8                                                                          | 15.4                         | 18.5                         | 11                                                              | 21                                                     |
| 7.8                                                                          | 17.2                         | 20.5                         | 10                                                              | 18                                                     |
| 8.2                                                                          | 18.9                         | 22.5                         | 9.5                                                             | 18                                                     |
| 10                                                                           | 21.4                         | 25.5                         | 9.0                                                             | 16                                                     |

### 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, PWB 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) = 75 V
- (1) DC current (A) that will cause an approximate ΔT of 40 °C
- (2) DC current (A) that will cause L<sub>0</sub> to drop approximately 20 %

## FEATURES

- Shielded construction
- Frequency range up to 5.0 MHz
- Lowest DCR/μH, in this package size
- Handles high transient current spikes without saturation
- Ultra low buzz noise, due to composite construction
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)


RoHS  
COMPLIANT

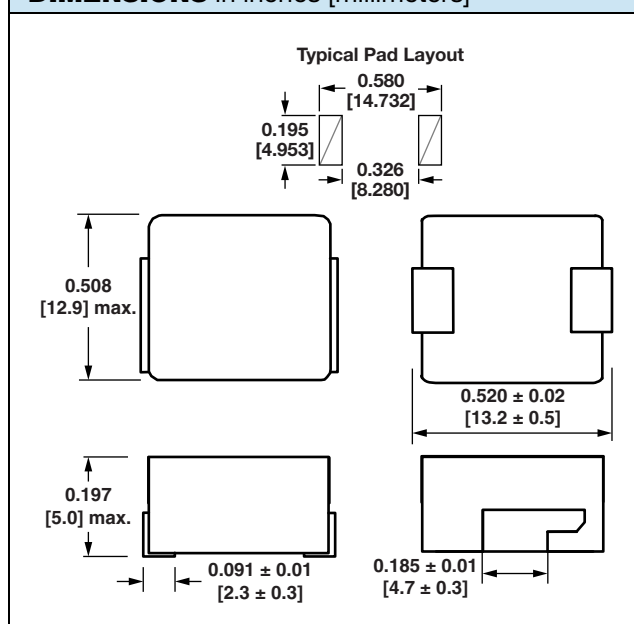
HALOGEN  
FREE  
Available

GREEN  
(5-2008)  
Available

## APPLICATIONS

- 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]





### DESCRIPTION

|                |                  |                      |              |                                |
|----------------|------------------|----------------------|--------------|--------------------------------|
| IHLP-5050EZ-01 | 1.0 $\mu$ H      | $\pm 20\%$           | EK           | e3                             |
| MODEL          | INDUCTANCE VALUE | INDUCTANCE TOLERANCE | PACKAGE CODE | JEDEC® LEAD (Pb)-FREE STANDARD |

### GLOBAL PART NUMBER

|                |             |                       |                   |                                  |        |
|----------------|-------------|-----------------------|-------------------|----------------------------------|--------|
| I H L P        | 5 0 5 0 E Z | E K                   | 1 R 0             | M                                | 0 1    |
| PRODUCT FAMILY | SIZE        | PACKAGE CODE          | INDUCTANCE VALUE  | INDUCTANCE TOLERANCE             | SERIES |
|                |             | EK =<br>tape and reel | 1R0 = 1.0 $\mu$ H | M = $\pm 20\%$<br>N = $\pm 30\%$ |        |

### PACKAGE CODE OPTIONS

EK = tape and reel packaging (750 pcs on 13-inch reel)

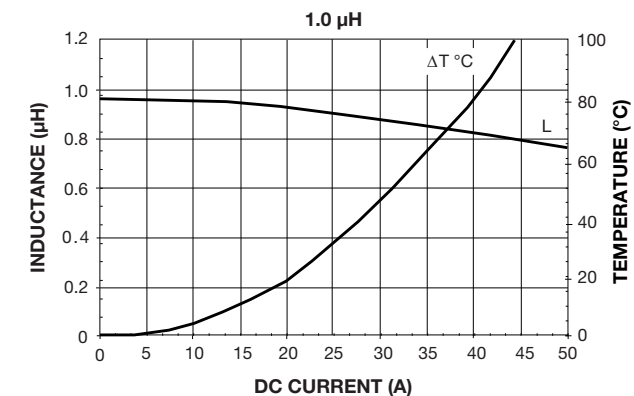
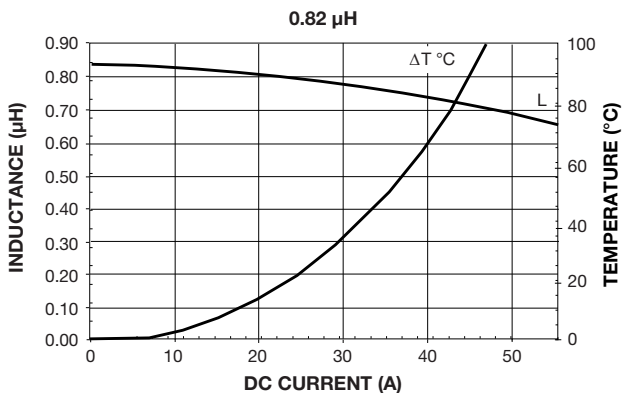
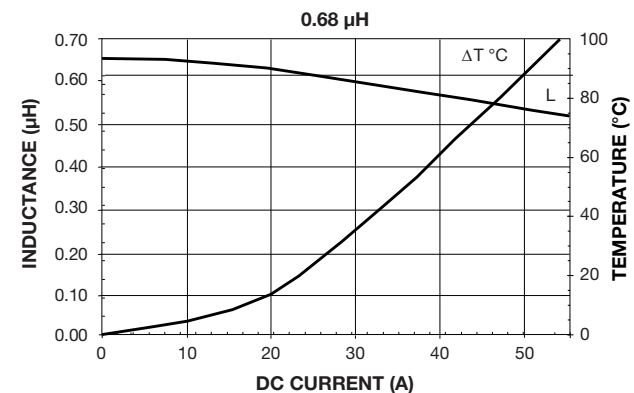
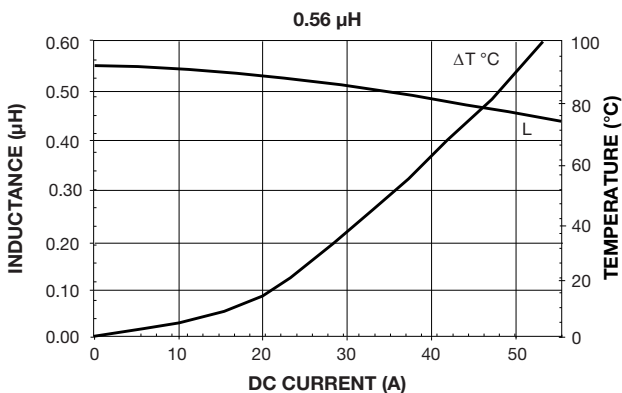
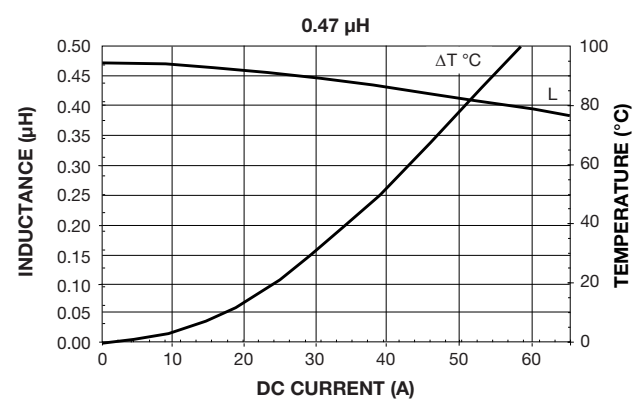
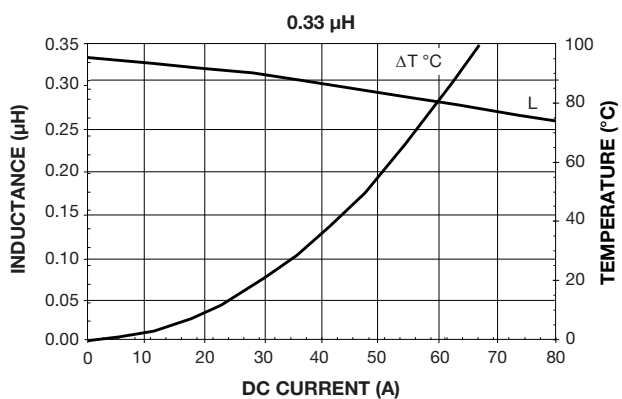
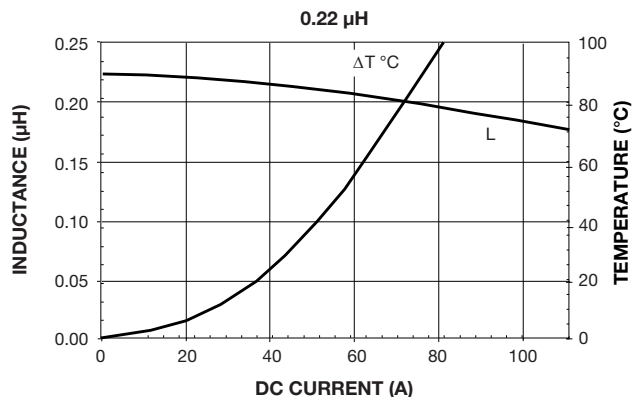
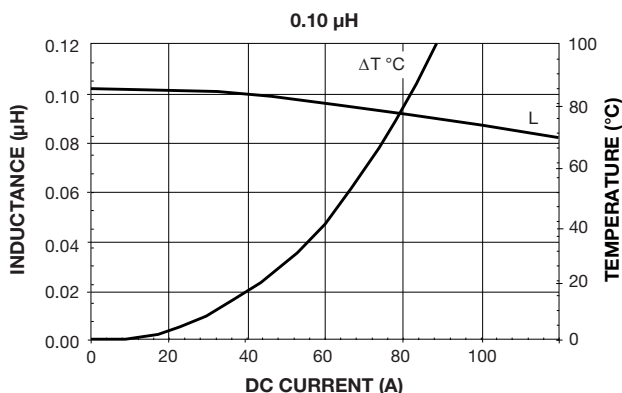
ER = tape and reel packaging (250 pcs on 13-inch reel)

#### Note

- For additional packaging details see ["Packaging Methods"](#)

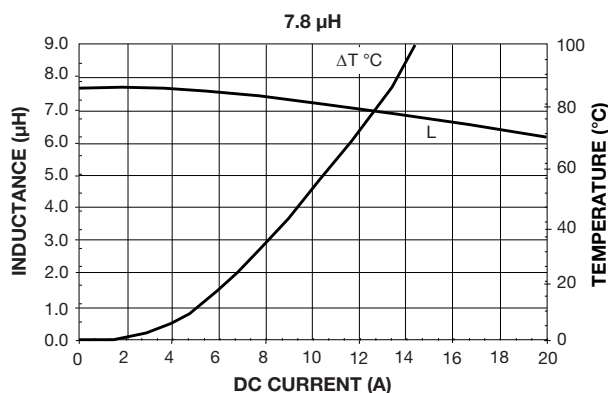
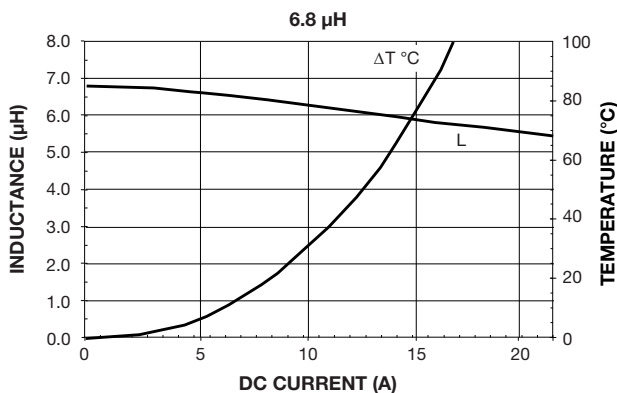
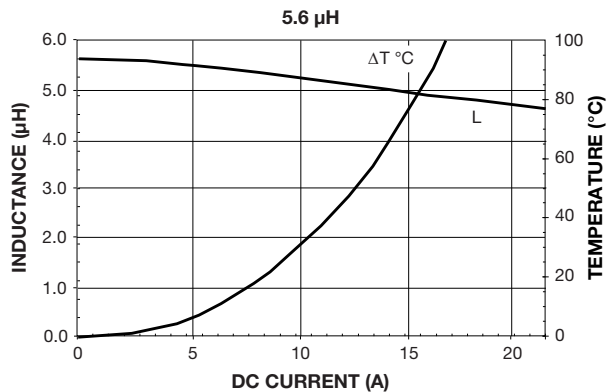
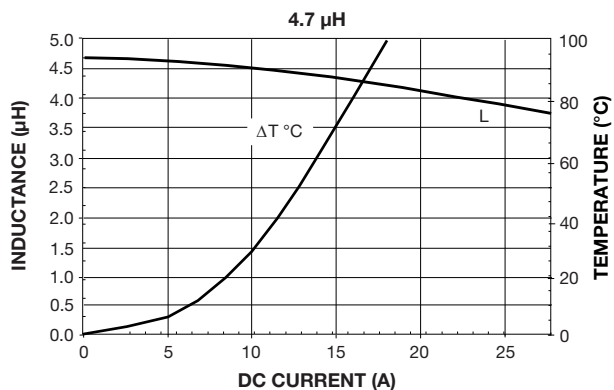
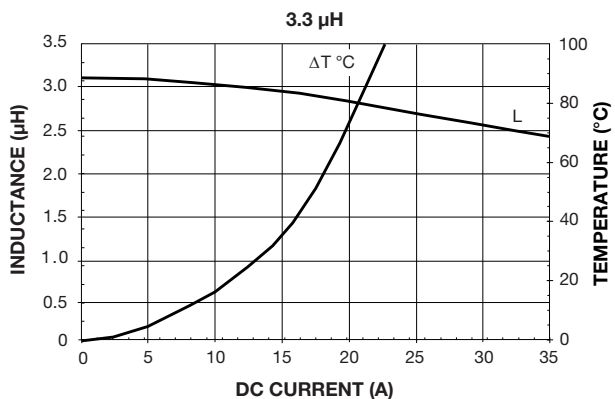
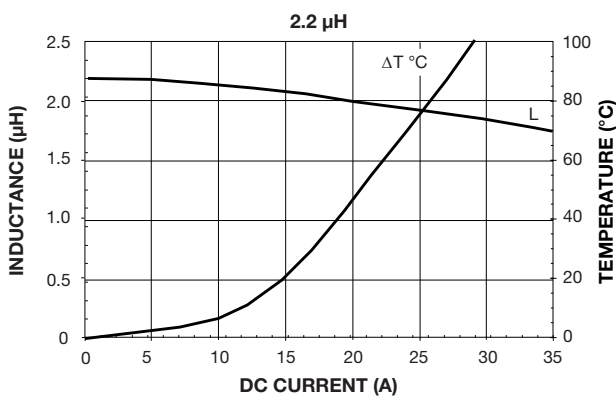
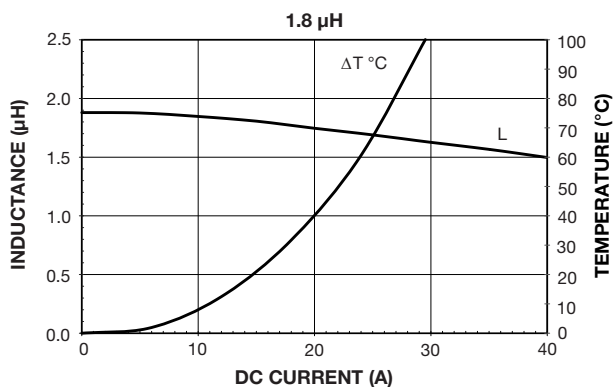
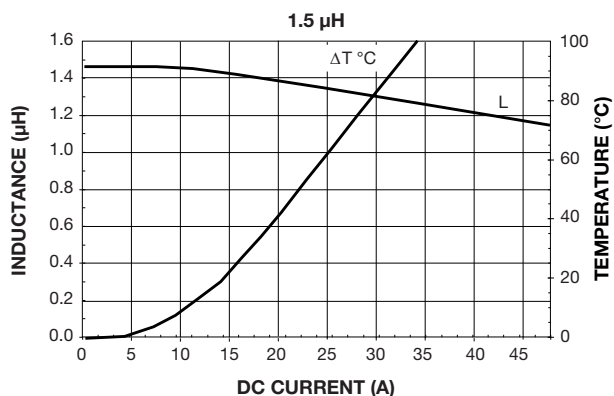


PERFORMANCE GRAPHS



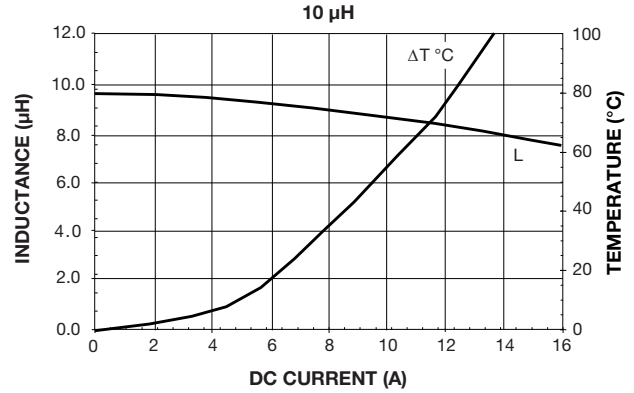
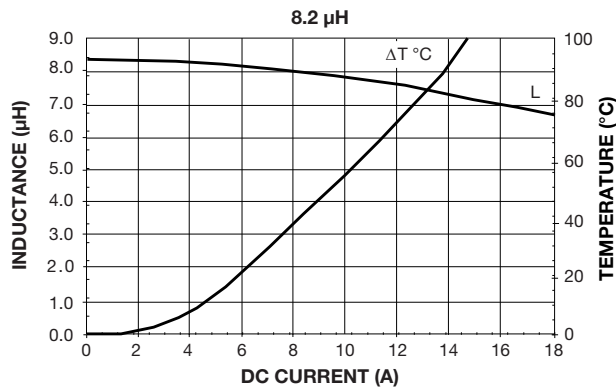


PERFORMANCE GRAPHS





PERFORMANCE GRAPHS





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