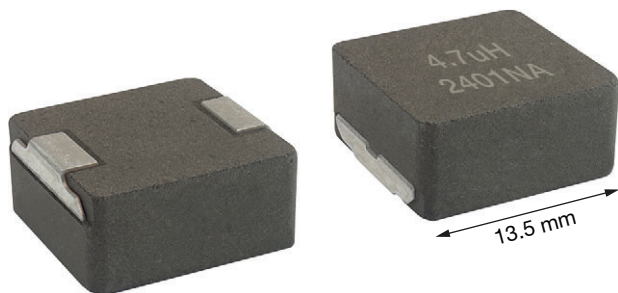




## IHLP® Commercial Inductors, Low AC Loss, High Temperature (155 °C) Series



### FEATURES

- 13.5 mm x 12.9 mm x 6.4 mm SMD package
- Up to 60 % lower AC losses than traditional core materials gives excellent performance in high ripple conditions and minimizes need for cooling
- Magnetically shielded 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**  
**GREEN**  
(5-2008)

### LINKS TO ADDITIONAL RESOURCES



3D Models



Design Tools

### APPLICATIONS

- GaN switching converters
- 5G telecom
- DC/DC conversion and filtering
- Drivers for LED lighting and audio

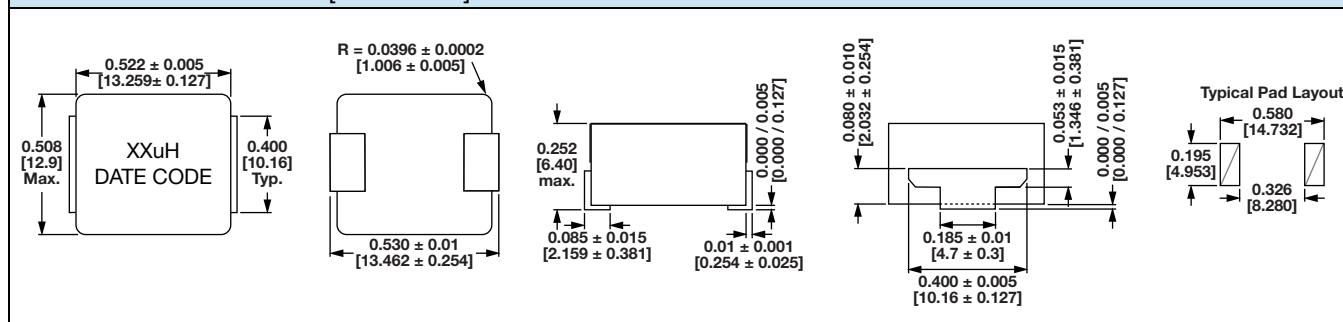
### STANDARD ELECTRICAL SPECIFICATIONS

| PART NUMBER        | 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<br>DC TYP.<br>(A) <sup>(2)</sup> |           | SRF TYP.<br>(MHz) |
|--------------------|-------------------------------------|---------------------------|---------------------------|------------------------------------------------------|-----------------------------------------------------|-----------|-------------------|
|                    |                                     |                           |                           |                                                      | 20 % DROP                                           | 30 % DROP |                   |
| IHLP5050FDE_1R0M0P | 1.0                                 | 1.5                       | 1.6                       | 37.9                                                 | 36.5                                                | 49.0      | 41.0              |
| IHLP5050FDE_2R2M0P | 2.2                                 | 2.7                       | 2.9                       | 26.9                                                 | 30.3                                                | 41.0      | 27.4              |
| IHLP5050FDE_3R3M0P | 3.3                                 | 5.7                       | 6.1                       | 21.0                                                 | 27.1                                                | 36.6      | 21.3              |
| IHLP5050FDE_4R7M0P | 4.7                                 | 9.0                       | 9.6                       | 16.3                                                 | 21.9                                                | 30.0      | 15.4              |
| IHLP5050FDE_100M0P | 10                                  | 16.1                      | 17.2                      | 12.2                                                 | 16.1                                                | 21.6      | 10.9              |

#### Notes

- All test data is referenced to 25 °C ambient
  - Test condition: 100kHz, 0.25V
  - 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, 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) = 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 % and 30 %

### DIMENSIONS in inches [millimeters]





## DESCRIPTION

|                       |                              |                              |              |                                |
|-----------------------|------------------------------|------------------------------|--------------|--------------------------------|
| <b>IHLP-5050FD-0P</b> | <b>4.7 <math>\mu</math>H</b> | <b><math>\pm 20\%</math></b> | <b>EK</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>5 0 5 0 F D</b> | <b>E K</b>         | <b>4 R 7</b>      | <b>M</b>             | <b>0 P</b> |
| PRODUCT FAMILY | SIZE               | PACKAGE CODE       | INDUCTANCE        | INDUCTANCE TOLERANCE | SERIES     |
|                |                    | EK = tape and reel | 4R7 = 4.7 $\mu$ H | M = $\pm 20\%$       |            |

## PACKAGE CODE OPTIONS

**EK** = tape and reel packaging (500 pcs on 13-inch reel)

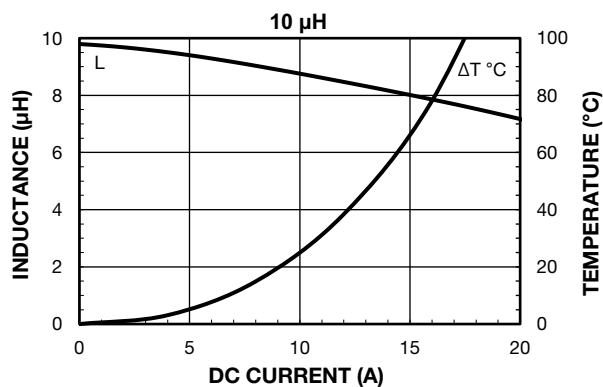
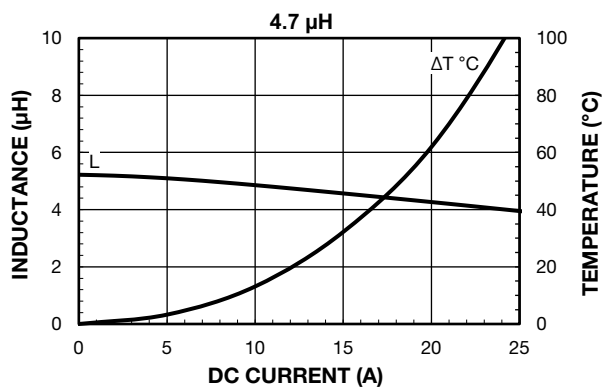
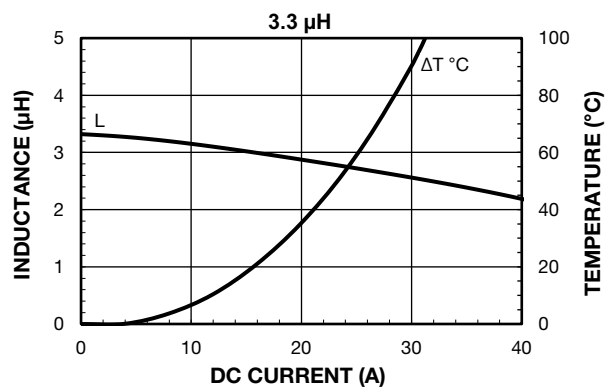
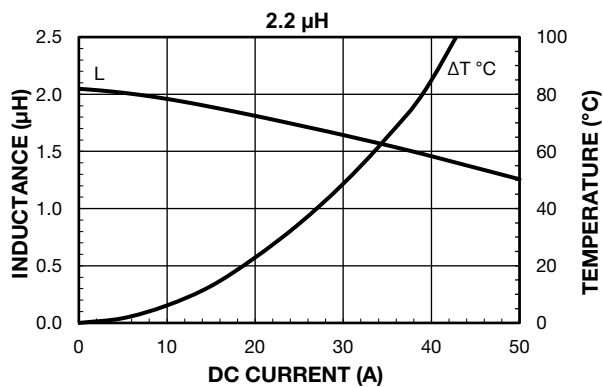
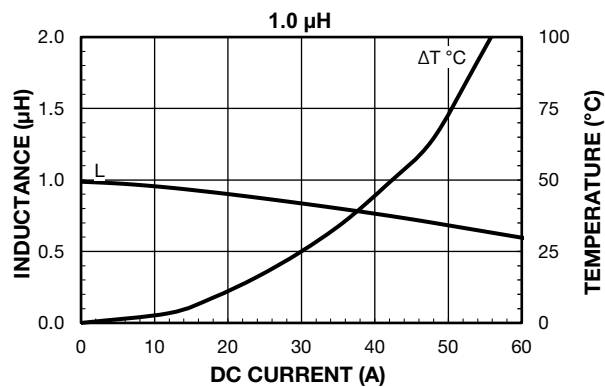
**ER** = tape and reel packaging (250 pcs on 13-inch reel)

### Note

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

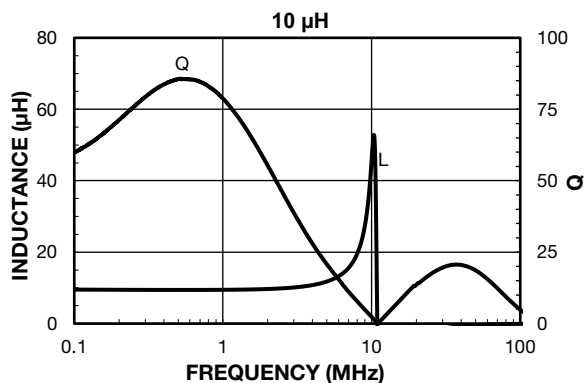
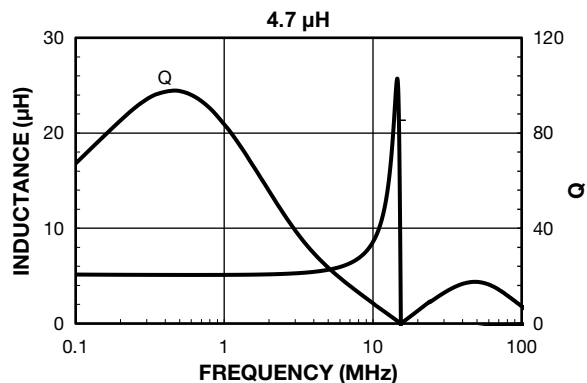
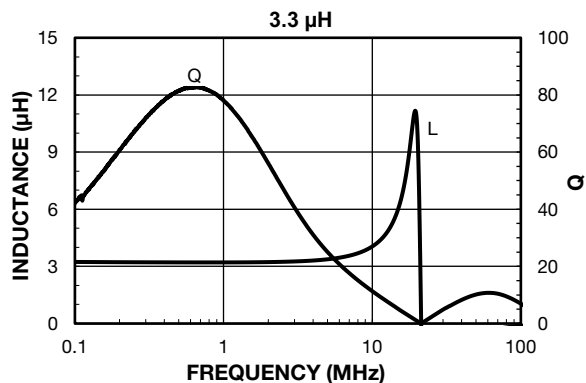
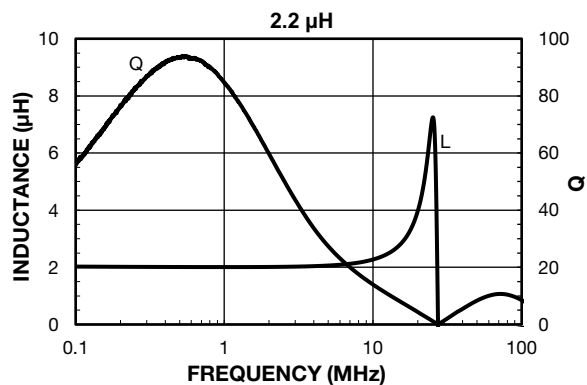
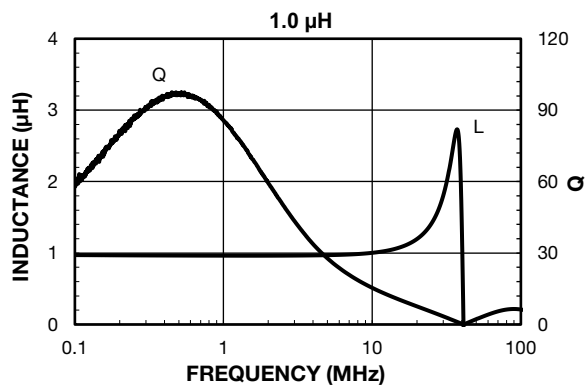


PERFORMANCE GRAPHS





PERFORMANCE GRAPHS: INDUCTANCE AND Q VS. FREQUENCY





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