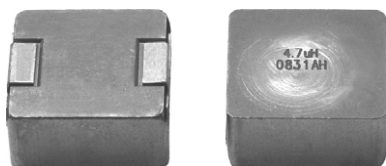


# IHLP® Automotive Inductors, High Saturation Series



## 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. (A) <sup>(2)</sup>
0.10	0.47	0.50	60.0	120.0
0.15	0.53	0.60	55.0	118.0
0.22	0.63	0.70	53.0	112.0
0.30	0.70	0.80	48.0	72.0
0.33	0.83	0.90	46.0	65.0
0.40	0.90	1.0	44.0	64.0
0.47	1.0	1.2	41.0	63.0
0.56	1.2	1.4	37.0	62.0
0.68	1.4	1.6	35.0	60.0
0.82	1.6	1.9	33.0	50.0
1.0	1.7	2.0	32.0	49.0
1.2	2.1	2.5	30.0	48.0
1.5	2.5	3.0	27.0	45.0
1.8	2.8	3.2	24.0	41.0
2.2	3.5	4.2	22.0	40.0
3.3	5.7	6.8	18.0	35.0
4.7	9.3	11.2	13.5	30.0
5.6	9.3	10	13.5	26.5
6.8	13.1	14	11.5	16.5
8.2	14.5	15.5	10.5	16.0
10	16.4	17.2	10.0	15.5
15	27.6	29.7	7.7	15.0

## 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, 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
- <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 %

## 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
- Excellent temperature stability for inductance and saturation
- 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**

## 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



## DESCRIPTION

<b>IHLP-5050FD-A1</b>	<b>1.0 <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</b>	<b>H</b>	<b>L</b>	<b>P</b>	<b>5</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>F</b>	<b>D</b>	<b>E</b>	<b>K</b>	<b>1</b>	<b>R</b>	<b>0</b>	<b>M</b>	<b>A</b>	<b>1</b>
PRODUCT FAMILY				SIZE				PACKAGE CODE		INDUCTANCE			INDUCTANCE TOLERANCE		SERIES		
								E K = tape and reel		1R0 = 1.0 $\mu$ H			M = $\pm 20$ %				

## PACKAGE CODE OPTIONS

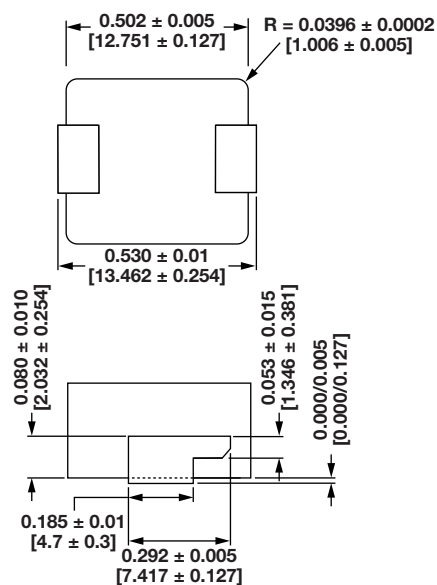
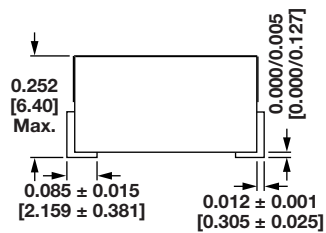
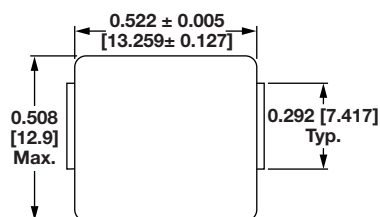
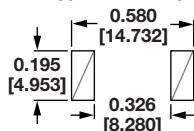
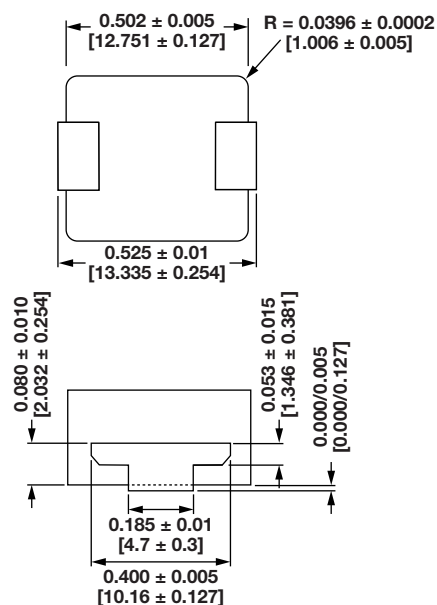
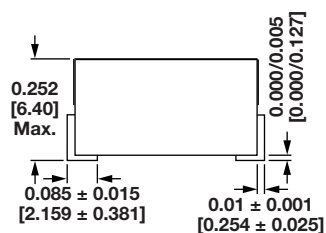
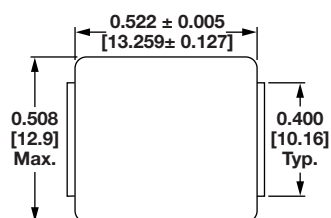
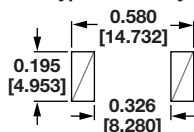
**EK** = tape and reel packaging (500 pcs on 13-inch reel)

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

### Note

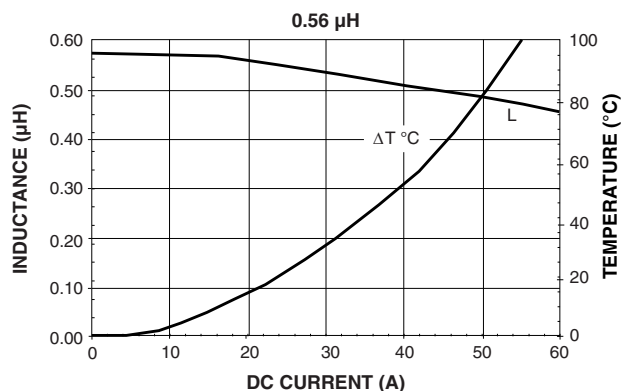
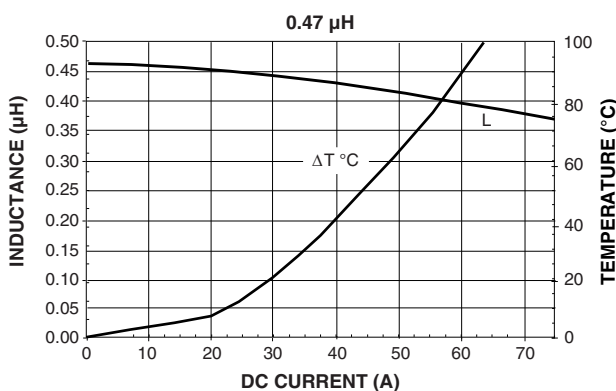
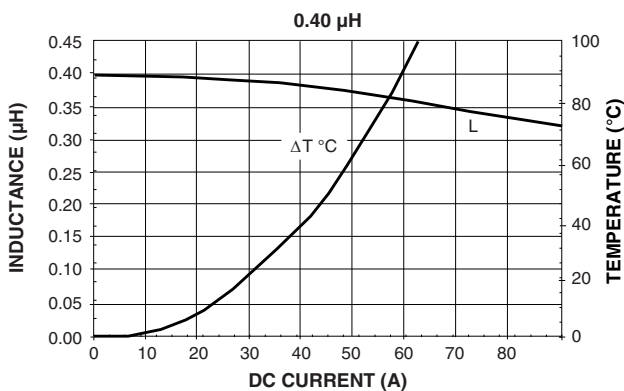
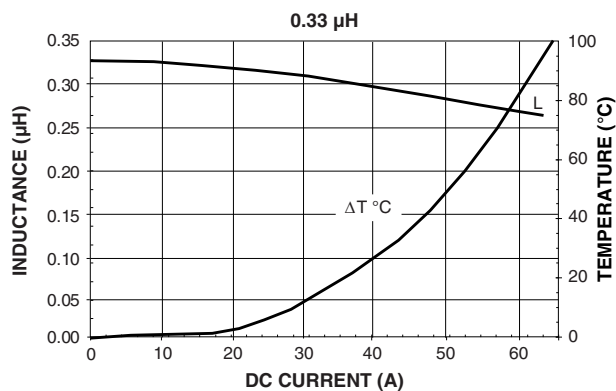
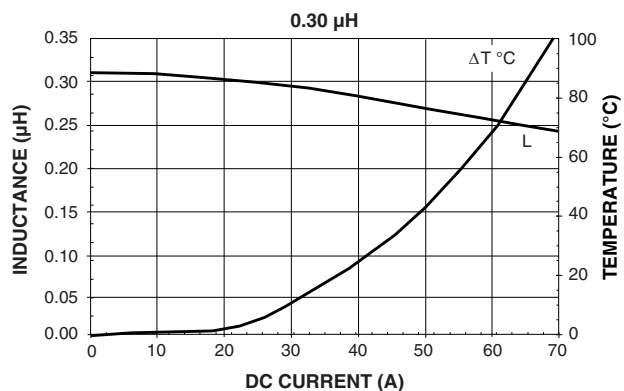
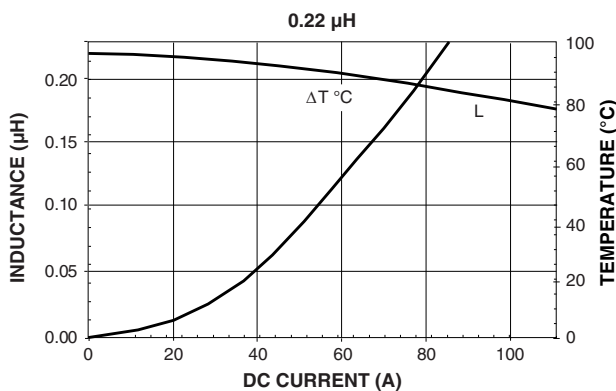
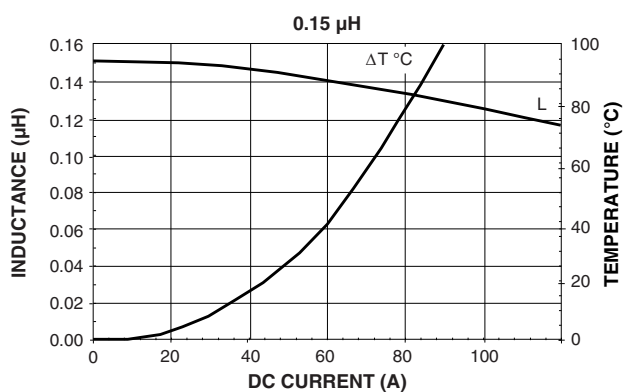
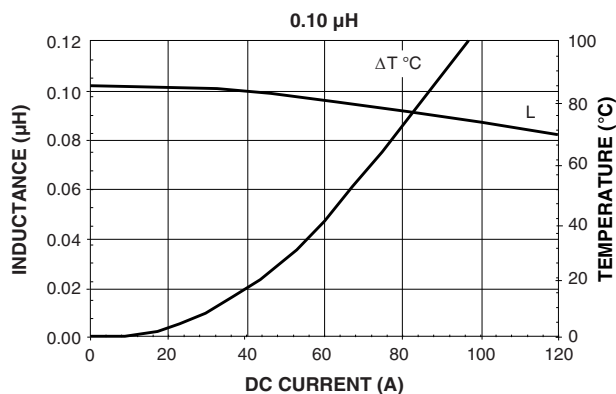
- For additional packaging details see "[Packaging Methods](#)"

**DIMENSIONS** in inches [millimeters]

**Values 0.82  $\mu$ H and lower**
**Typical Pad Layout**

**Values 1.0  $\mu$ H and higher**
**Typical Pad Layout**


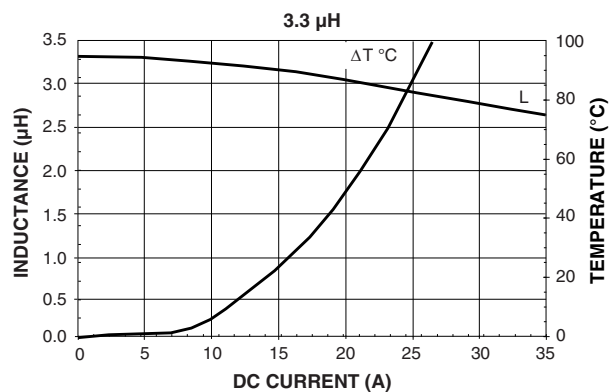
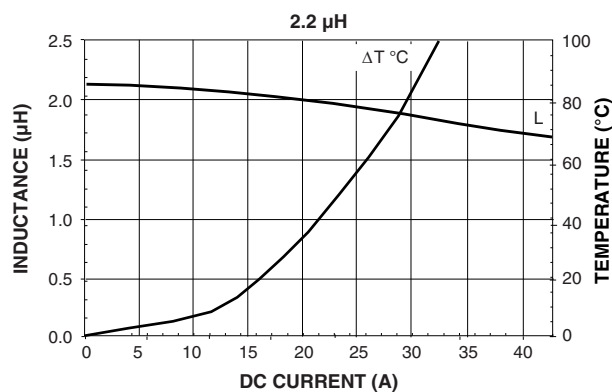
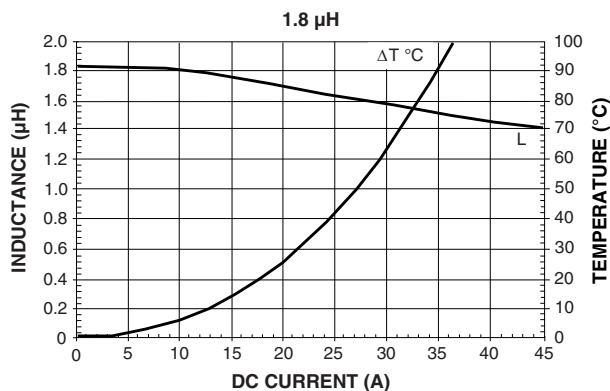
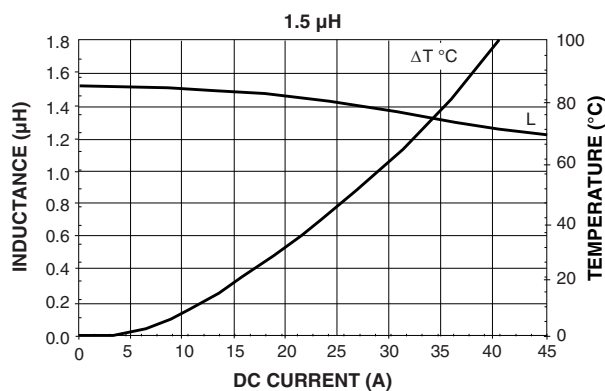
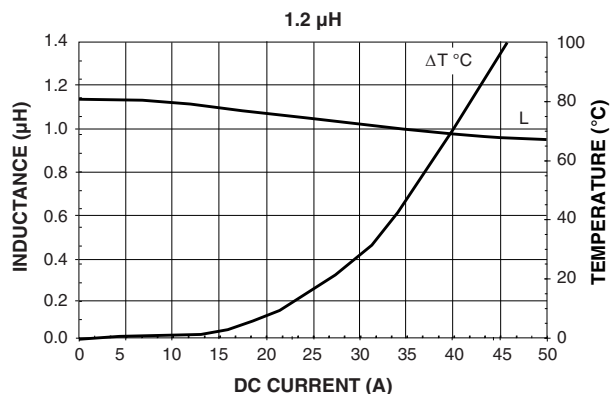
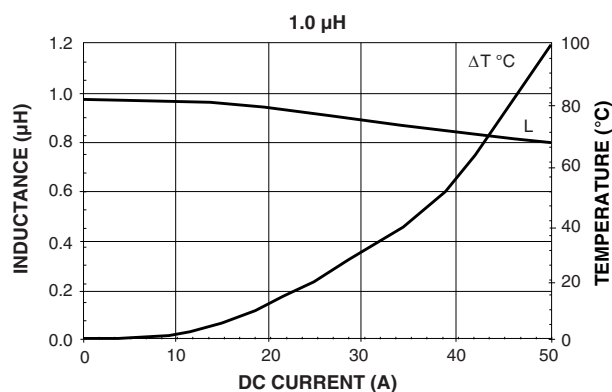
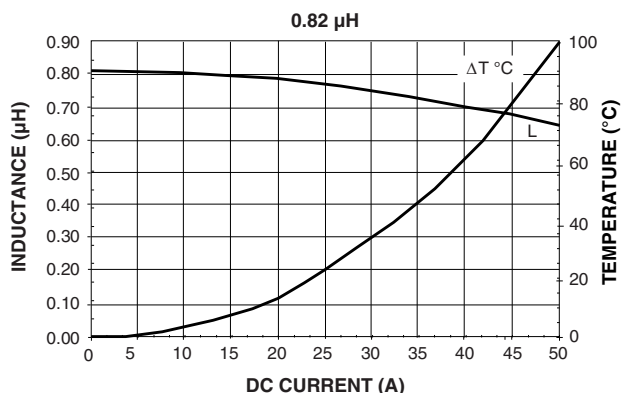
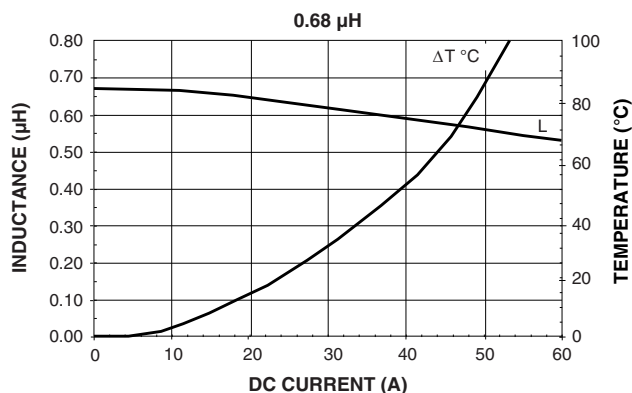


PERFORMANCE GRAPHS



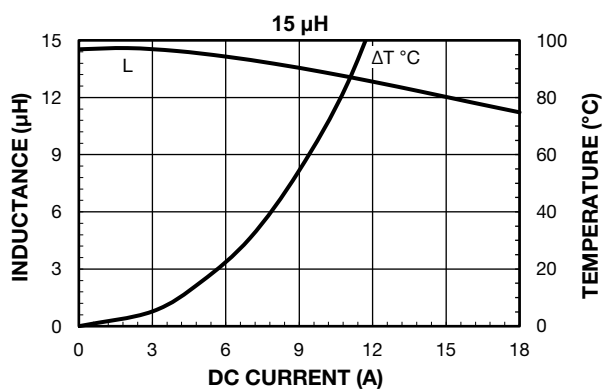
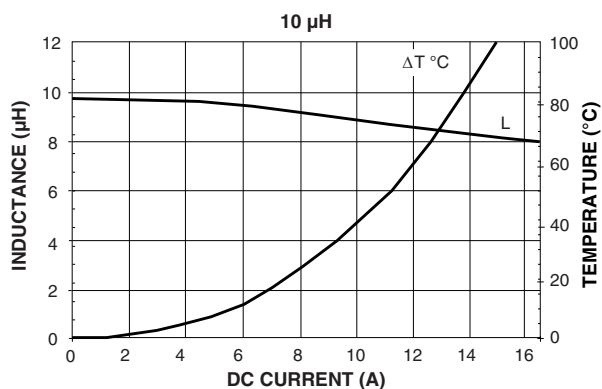
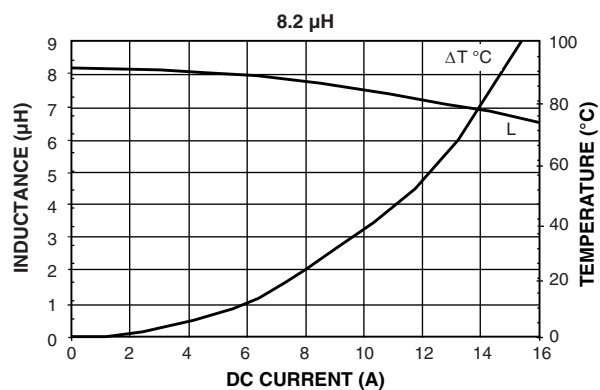
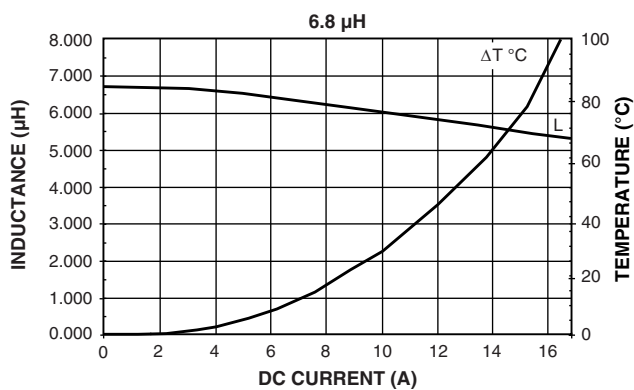
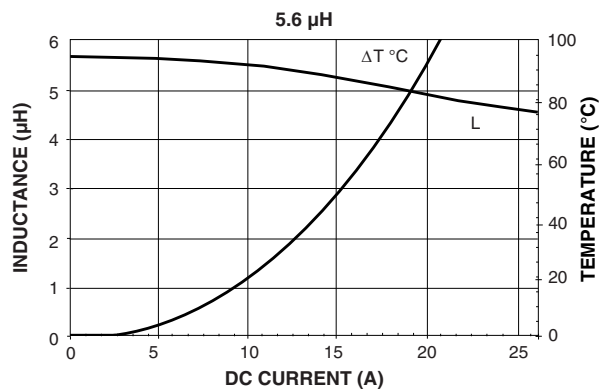
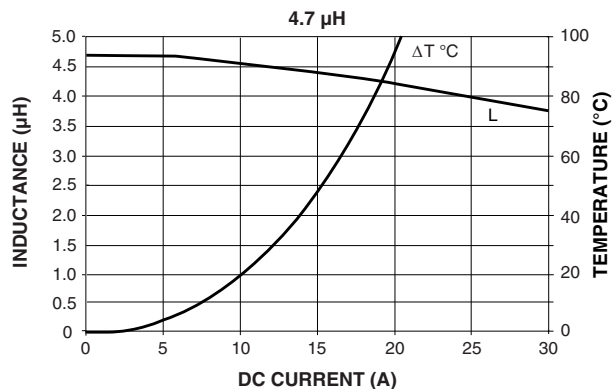


PERFORMANCE GRAPHS





PERFORMANCE GRAPHS





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