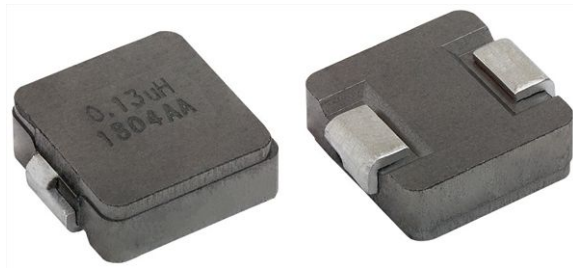


## Automotive Inductors, High Temperature (155 °C) Series



### LINKS TO ADDITIONAL RESOURCES


[Calculators](#)

### FEATURES

- High temperature rating, up to 155 °C
- Shielded construction
- Excellent DC/DC energy storage up to 5 MHz. Filter inductor applications up the SRF (see Standard Electrical Specifications table)
- Lowest DCR/μH, in this package size
- Handles high transient current spikes without saturation
- Ultra low buzz noise, due to composite construction
- AEC-Q200 qualified
- **Patent pending**
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)

AUTOMOTIVE GRADE


**RoHS**  
 COMPLIANT  
 HALOGEN  
**FREE**  
**GREEN**  
 [5-2008]

### APPLICATIONS

- Engine and transmission control units
- Diesel injection drivers
- DC/DC converters for entertainment / navigation systems
- High current, high frequency multi-phase DC/DC converters
- Noise suppression for motors

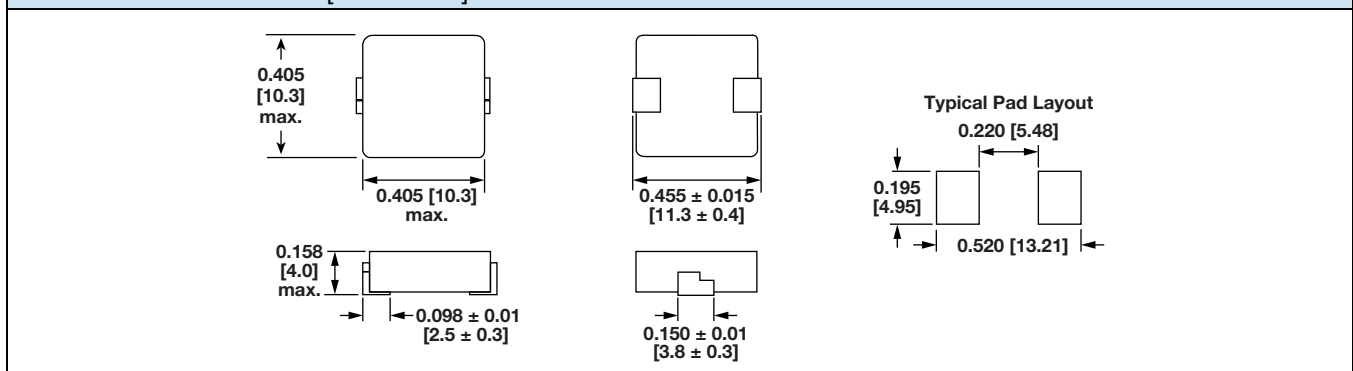
### STANDARD ELECTRICAL SPECIFICATIONS

PART NUMBER	L <sub>0</sub> INDUCTANCE ± 20 % AT 100 kHz, 0.25 V, 0 A (μH)	DCR AT 25 °C (mΩ)		HEAT RATING CURRENT DC (A) <sup>(1)</sup>	SATURATION CURRENT DC (A)		SRF TYP. (MHz)
		TYP.	MAX.	TYP.	TYP. <sup>(2)</sup>	TYP. <sup>(3)</sup>	
IHSR4040DZERR13M5A	0.13	0.54	0.58	72.0	63.0	92.0	151

#### Notes

- All test data is referenced to 25 °C ambient
  - 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, PWB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application
- (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 %  
 (3) DC current (A) that will cause L<sub>0</sub> to drop approximately 30 %

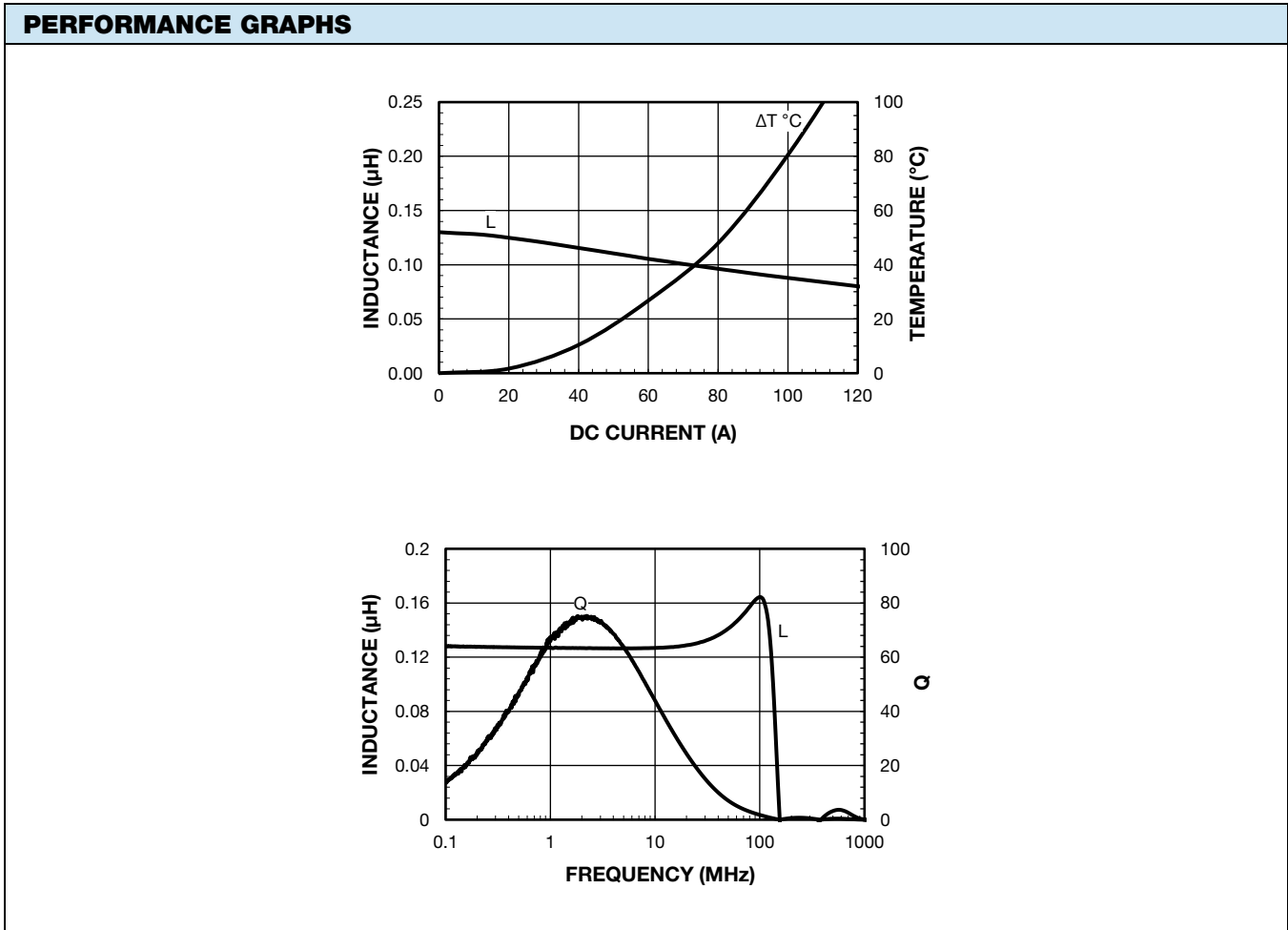
### DIMENSIONS in inches [millimeters]





DESCRIPTION				
IHSR-4040DZ-5A	0.13 $\mu$ H	$\pm 20\%$	ER	e3
MODEL	INDUCTANCE VALUE	INDUCTANCE TOLERANCE	PACKAGE CODE	JEDEC® LEAD (Pb)-FREE STANDARD

GLOBAL PART NUMBER																	
I	H	S	R	4	0	4	0	D	Z	E	R	R	1	3	M	5	A
PRODUCT FAMILY				SIZE				PACKAGE CODE		INDUCTANCE VALUE			TOL.	SERIES			





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