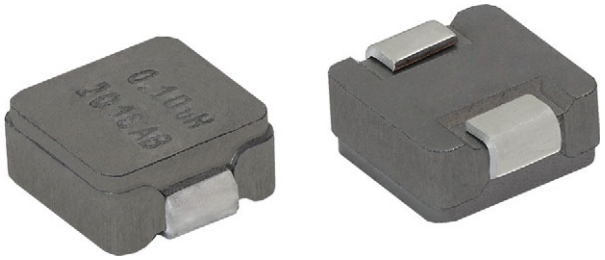
Automotive Inductors, Ultra Low DCR, High Saturation Series



LINKS TO ADDITIONAL RESOURCES

Product Page Design Tools

FEATURES

- Size: 7.42 mm x 6.65 mm x 3.0 mm
- Magnetically shielded construction
- Optimized for maximum efficiency at high load currents in high frequency switching converters
- Patented coil design achieves ultra low DCR and robust design
- Thermally conductive structure minimizes hot spots for enhanced heat dissipation over ferrite technologies in natural convection and active cooling environments
- Handles high transient in-rush currents without saturation for maximum ripple control
- AEC-Q200 qualified
- IHSR design; PATENT(S): www.vishay.com/patents
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

APPLICATIONS

- Multiphase DC/DC converters for ADAS microprocessors
- High current LC filters
- LiDAR boost inductor for laser diode with GaN FETs
- Energy storage inductor for high frequency, low voltage converters (12 V to 1 V) for automotive domain control units (DCU)

STANDARD ELECTRICAL SPECIFICATIONS

PART NUMBER	L_0 INDUCTANCE ± 20 % AT 100 kHz, 0.25 V, 0 A (µH)	DCR ± 5 % AT 25 °C (mΩ)	HEAT RATING CURRENT DC TYP. (A) [1]	SATURATION CURRENT DC TYP. (A)		SRF TYP. (MHz)
				20 % DROP [2]	30 % DROP [3]	
IHSR2525CZER80NMA1	0.080	0.62	46	62	87	315

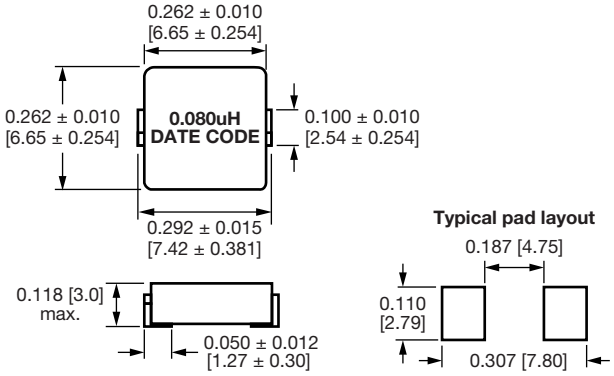
Notes

- 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

(1) DC current (A) that will cause an approximate ΔT of 40 °C
(2) DC current (A) that will cause L_0 to drop approximately 20 %
(3) DC current (A) that will cause L_0 to drop approximately 30 %

PATENT(S): www.vishay.com/patents
This Vishay product is protected by one or more United States and international patents.

DIMENSIONS in inches [millimeters]



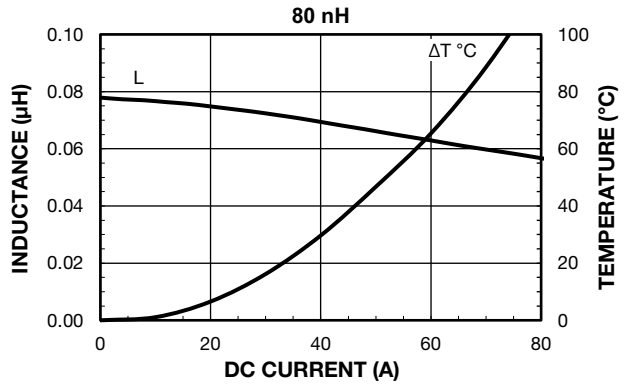
DESCRIPTION

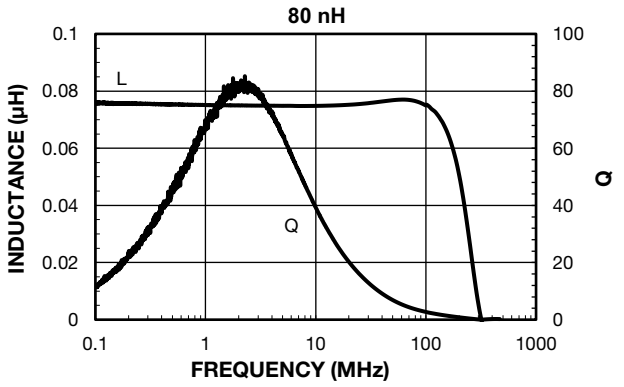
IHSR2525CZ-A1	0.080 µH	± 20 %	ER	e3
MODEL	INDUCTANCE VALUE	INDUCTANCE TOLERANCE	PACKAGE CODE	JEDEC® LEAD (Pb)-FREE STANDARD

GLOBAL PART NUMBER

I	H	S	R	2	5	2	5	C	Z	E	R	8	0	N	M	A	1
PRODUCT FAMILY				SIZE						PACKAGE CODE		INDUCTANCE VALUE			INDUCTANCE TOLERANCE	SERIES	
										ER = tape and reel		**80N** = 0.080 µH			**M** = ± 20 %		

PERFORMANCE GRAPHS





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