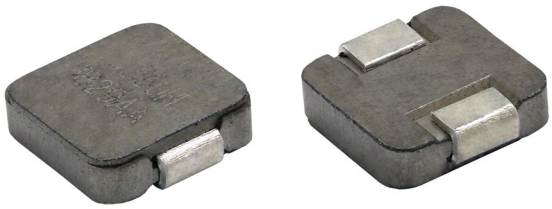
Automotive Inductors, Ultra Low DCR, High Saturation Series



FEATURES

- Magnetically shielded construction
- Optimized for high currents loads in high frequency 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 current spikes without saturation
- AEC-Q200 qualified
- IHSR design; PATENT(S): www.vishay.com/patents
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

AUTOMOTIVE GRADE

Pb-free

RoHS COMPLIANT

HALOGEN FREE GREEN (5-2008)

LINKS TO ADDITIONAL RESOURCES

Product Page

Calculators

APPLICATIONS

- High current load EMI filters
- LIDAR boost inductor for laser diode with GaN FETs
- High frequency, low voltage converters (12 V to 1 V) for automotive control units
- LC filter inductor

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 (A) (1)	SATURATION CURRENT DC (A)		SRF TYP. (MHz)
		TYP.	TYP.	TYP. (2)	TYP. (3)	
IHSR1616ABER33NMA1	0.033	1.15	37	41	62	856
IHSR1616ABER68NMA1	0.068	3.20	22	30	41	418

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

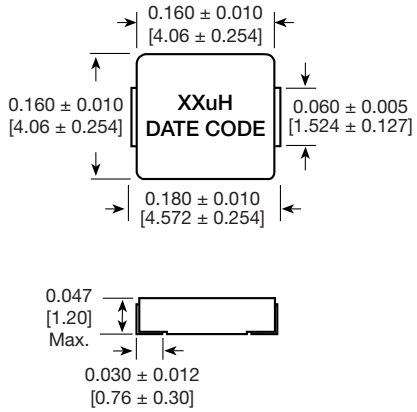
(2) DC current (A) that will cause L_0 to drop approximately 20 %

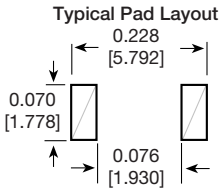
(3) DC current (A) that will cause L_0 to drop approximately 30 %

PATENT(S): www.vishay.com/patents

This Vishay product is protected by one or more United States and international patents.

DIMENSIONS in inches [millimeters]





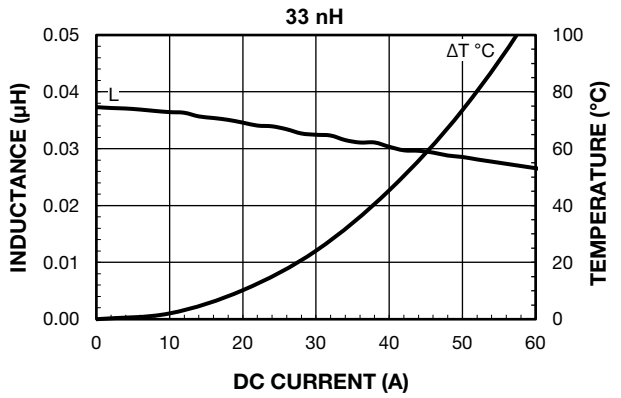
DESCRIPTION

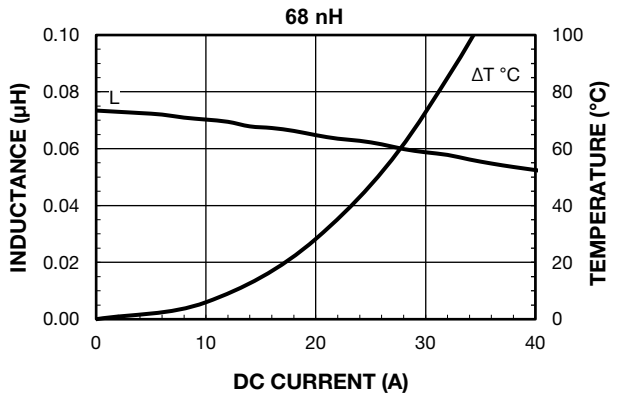
IHSR-1616AB-A1	0.033 µH	± 20 %	ER	e3
MODEL	INDUCTANCE VALUE	INDUCTANCE TOLERANCE	PACKAGE CODE	JEDEC® LEAD (Pb)-FREE STANDARD

GLOBAL PART NUMBER

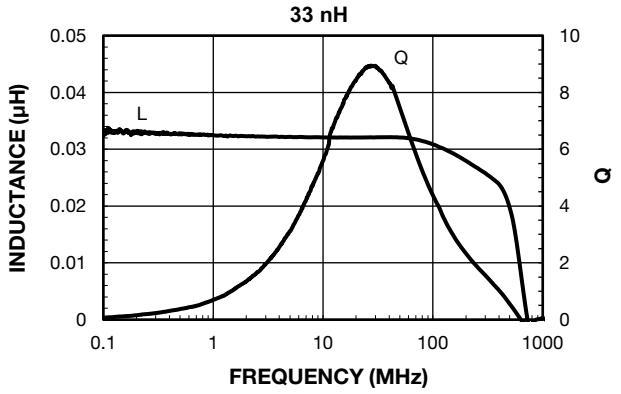
I H S R	1 6 1 6 A B	E R	3 3 N	M	A 1
PRODUCT FAMILY	SIZE	PACKAGE CODE	INDUCTANCE VALUE	INDUCTANCE TOLERANCE	SERIES
		ER = tape and reel	**33N** = 0.033 µH	**M** = ± 20 % **N** = ± 30 %	

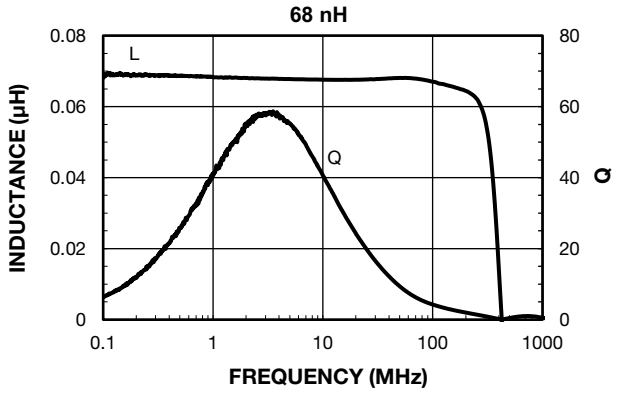
PERFORMANCE GRAPHS





PERFORMANCE GRAPHS: INDUCTANCE AND Q VS. FREQUENCY





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