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Vishay Dale

AUTOMOTIVE

RoHS

COMPLIANT

HALOGEN

FREE

GREEN

(5-2008)

IHLP® Automotive Inductors, High Temperature (180 °C) Series



LINKS TO ADDITIONAL RESOURCES



STANDARD ELECTRICAL SPECIFICATIONS					
L ₀ 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) ⁽¹⁾	SATURATION CURRENT DC TYP. (A) (2)	SRF TYP. (MHz)
0.22	1.68	1.86	36.0	32.0	117
0.47	2.38	2.55	27.0	19.0	77
0.68	3.30	3.53	21.5	16.2	51
0.82	3.70	4.00	20.0	16.0	49
1.0	4.58	4.90	19.0	16.2	45
1.5	6.78	7.25	15.5	14.0	35
2.2	11.70	12.50	11.5	14.0	32
3.3	15.40	16.48	10.6	11.8	23
4.7	26.60	28.46	7.2	9.1	18
5.6	29.60	31.67	6.9	9.0	18
10	50.00	53.50	5.1	5.2	13
15	62.00	66.34	4.8	3.6	10
22	103.00	110.21	3.7	3.8	9
33	149.00	159.43	3.1	3.2	6.1

Notes

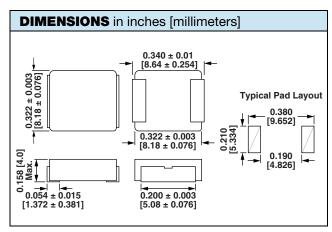
- All test data is referenced to 25 °C ambient
- Operating temperature range -55 °C to +180 °C
- The part temperature (ambient + temp. rise) should not exceed 180 °C under worst case operating conditions. Circuit design, component placement, PWB trace size and thickness, airflow and other cooling provisions all affect the part temperature. Part temperature should be verified in the end application
- 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_0 to drop approximately 20 %

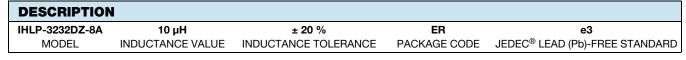
FEATURES

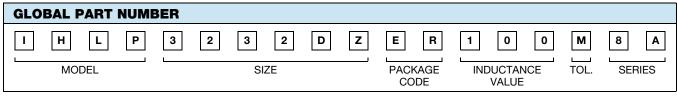
- Shielded construction
- Excellent DC/DC energy storage up to 1 MHz to 2 MHz. Filter inductor applications up to SRF (see "Standard Electrical Specifications" table)
- Operating temperature up to 180 °C
- Lowest DCR/µH, in this package size
- Handles high transient current spikes up to 10 times the current rating, depending on the duration
- Ultra low buzz noise, due to composite construction
- AEC-Q200 qualified
- IHLP design; PATENT(S): www.vishay.com/patents
- Material categorization: for definitions of compliance please see <u>www.vishay.com/doc?99912</u>

APPLICATIONS

- Brushless DC motor for auto EGR (exhaust gas recycle) pump
- ADAS (advanced driver-assistance systems)
- · Body electronics
 - LED lighting
 - Infotainment / driver information
- Mirror / window / door soft close control
- EMI filter up to 180 °C
- Storage inductors for GaN switched-mode power supply applications







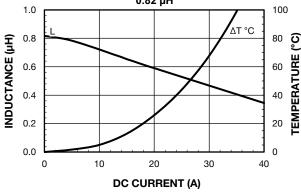
PATENT(S): www.vishay.com/patents

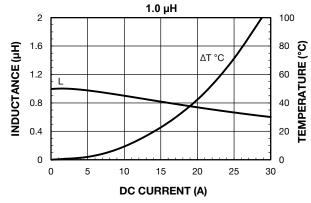
This Vishay product is protected by one or more United States and international patents.

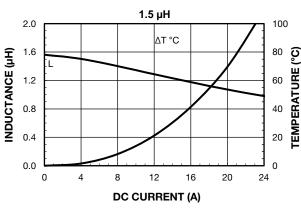


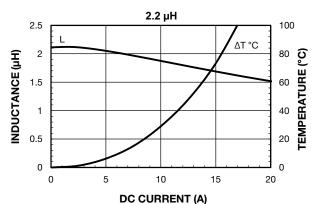
Vishay Dale www.vishay.com **PERFORMANCE GRAPHS** 0.22 µH 0.47 µH 100 100 0.25 0.5 ΔT °C ΔT °C 0.20 80 0.4 80 **TEMPERATURE (°C)** NDUCTANCE (µH) INDUCTANCE (µH) EMPERATURE 60 0.15 60 0.3 40 0.10 0.2 0.05 20 0.1 20 0.00 0.0 0 10 20 30 40 50 60 0 5 10 15 20 25 30 35 40 45 DC CURRENT (A) DC CURRENT (A) 0.68 µH 0.82 µH 1.0 100 1.0 100 ΔT °C 80 80 0.8 0.8 ΔΤ

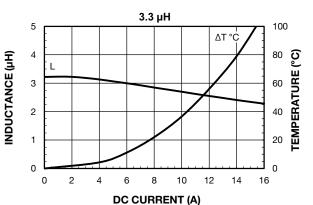


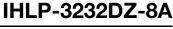






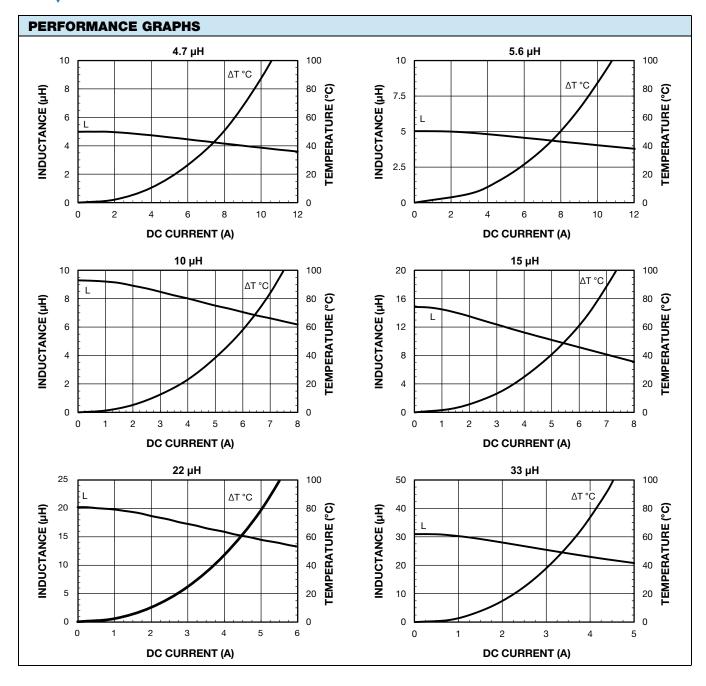




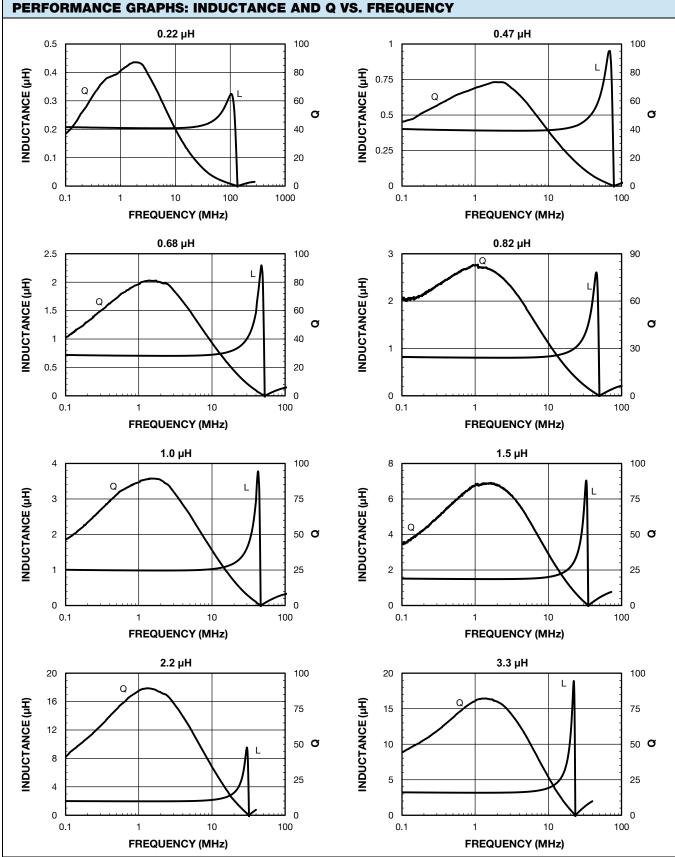




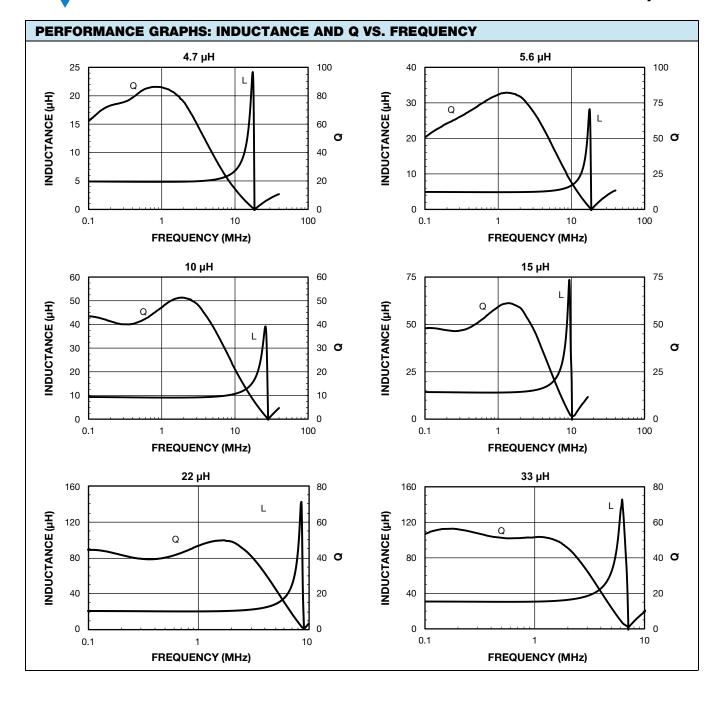
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