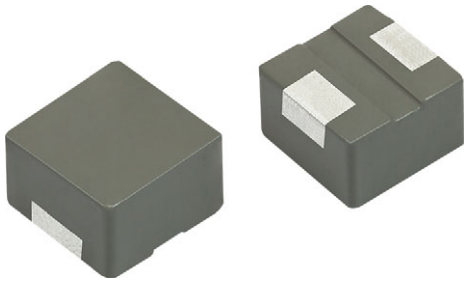
IHLP® Power Inductors, Low DCR Series



FEATURES

- 3.0 mm x 3.0 mm footprint
- Available in three height profiles (1.2 mm, 1.5 mm, 2.0 mm)
- Magnetically shielded construction
- Handles high transient current spikes without saturation
- AEC-Q200 qualified
- 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

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 blower / HID lighting
- LED drivers

MECHANICAL SPECIFICATIONS

- Terminations: pure tin electroplating over nickel underlayer over copper base
- Weight: 0.066 g (1.2 mm height), 0.087 g (1.5 mm height), 0.112 g (2.0 mm height)

STANDARD ELECTRICAL SPECIFICATIONS

PART NUMBER	L_0 INDUCTANCE ± 20 % AT 1 MHz, 1 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)		SRF TYP. (MHz)
					20 % DROP (2)	30 % DROP (3)	
1.2 mm HEIGHT							
IHLP1212ABEZR22M1A	0.22	8.6	10.3	11.1	9.5	12.4	185
IHLP1212ABEZR33M1A	0.33	10.8	12.9	9.9	8.9	11.6	140
IHLP1212ABEZR47M1A	0.47	14.7	17.6	8.5	7.2	9.4	115
IHLP1212ABEZR56M1A	0.56	16.8	19.8	8.0	6.9	9.0	110
IHLP1212ABEZR68M1A	0.68	20.3	22.5	7.5	5.7	7.4	85
IHLP1212ABEZ1R0M1A	1.0	29.4	33.8	6.1	5.1	6.7	66
1.5 mm HEIGHT							
IHLP1212AEEZR22M1A	0.22	8.6	10.3	11.1	11.0	14.3	202
IHLP1212AEEZR33M1A	0.33	10.4	12.4	10.1	9.0	11.7	144
IHLP1212AEEZR47M1A	0.47	11.4	13.5	9.7	8.1	10.6	102
IHLP1212AEEZR56M1A	0.56	15.3	18.4	8.3	7.5	9.8	100
IHLP1212AEEZR68M1A	0.68	16.6	19.8	8.0	6.8	8.8	97
IHLP1212AEEZR82M1A	0.82	20.3	23.4	7.3	6.0	7.8	92
IHLP1212AEEZ1R0M1A	1.0	26.6	29.7	6.5	5.8	7.5	74
IHLP1212AEEZ1R5M1A	1.5	36.9	41.4	5.5	5.0	6.5	51

STANDARD ELECTRICAL SPECIFICATIONS

PART NUMBER	L_0 INDUCTANCE ± 20 % AT 1 MHz, 1 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)		SRF TYP. (MHz)
					20 % DROP (2)	30 % DROP (3)	
2.0 mm HEIGHT							
IHLP1212BZEZR22M1A	0.22	8.6	10.3	11.1	10.5	13.7	214
IHLP1212BZEZR36M1A	0.36	10.4	12.4	10.1	10.0	13.0	161
IHLP1212BZEZR56M1A	0.56	11.7	14.9	9.2	8.4	10.9	90
IHLP1212BZEZR68M1A	0.68	12.6	15.8	8.9	8.2	10.7	85
IHLP1212BZEZR88M1A	0.88	14.0	16.7	8.7	8.0	10.4	65
IHLP1212BZEZ1R0M1A	1.0	18.0	20.0	8.4	7.6	9.8	55
IHLP1212BZEZ1R2M1A	1.2	20.7	23.4	7.3	6.8	8.8	50
IHLP1212BZEZ1R5M1A	1.5	22.5	25.2	7.1	6.0	7.9	47
IHLP1212BZEZ2R2M1A	2.2	36.0	40.5	5.7	5.3	6.9	35
IHLP1212BZEZ3R3M1A	3.3	50.4	54.9	4.5	3.7	4.8	30

Notes

- All test data is referenced to 25 °C ambient
- Inductance test condition: 1 MHz, 1 V
- 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 %

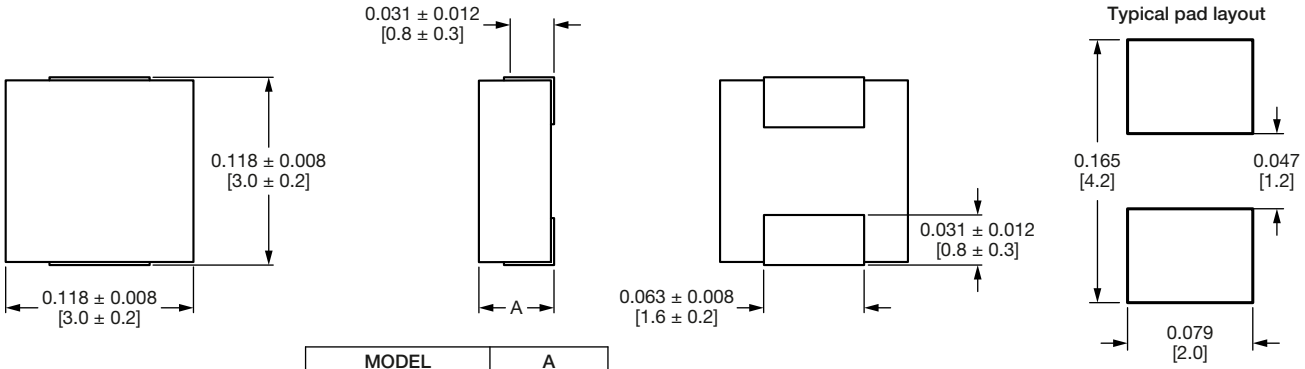
GLOBAL PART NUMBER

I H L P	1 2 1 2 B Z	E Z	1 R 5	M	1 A
PRODUCT FAMILY	SIZE	PACKAGE CODE	INDUCTANCE VALUE	TOLERANCE	SERIES
		EZ = tape and reel, 3000 pieces/reel	**1R5** = 1.5 µH	**M** = ± 20 %	

DESCRIPTION

IHLP1212BZEZ-1A	1.5 µH	± 20 %	EZ
MODEL	INDUCTANCE VALUE	INDUCTANCE TOLERANCE	PACKAGE CODE

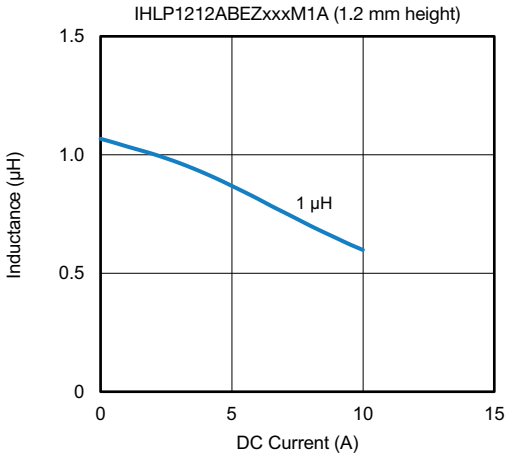
DIMENSIONS in inches [millimeters]

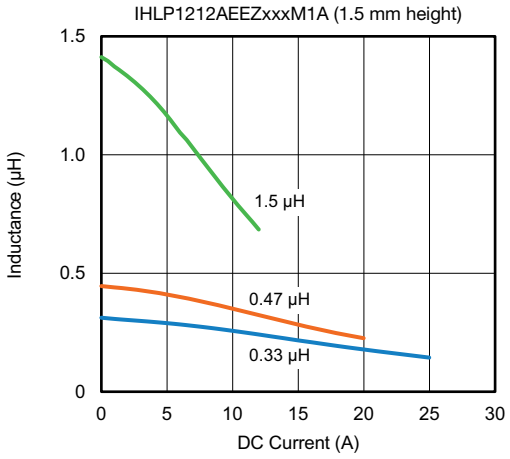


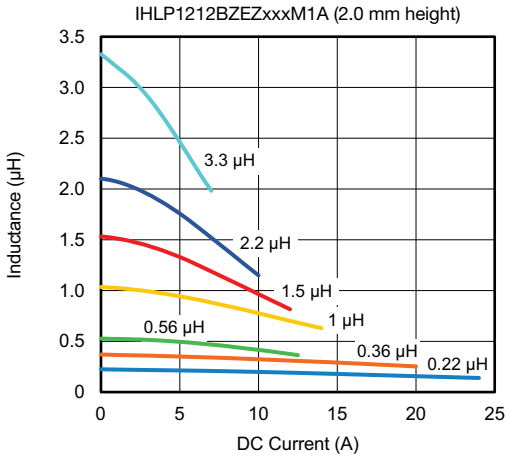
MODEL	A
IHLP1212ABEZ-1A	0.047 max. [1.2 max.]
IHLP1212AEEZ-1A	0.059 max. [1.5 max.]
IHLP1212BZEZ-1A	0.079 max. [2.0 max.]

No part marking

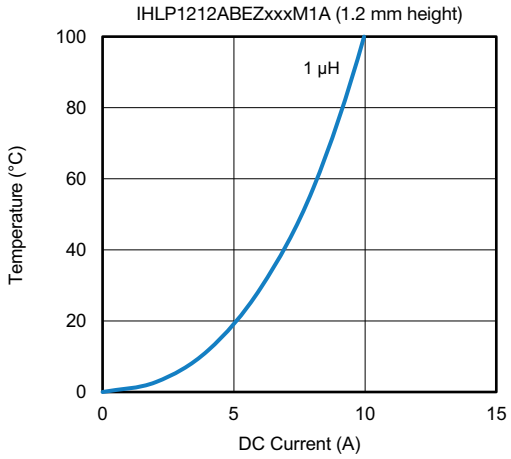
PERFORMANCE GRAPHS: INDUCTANCE VS. DC CURRENT

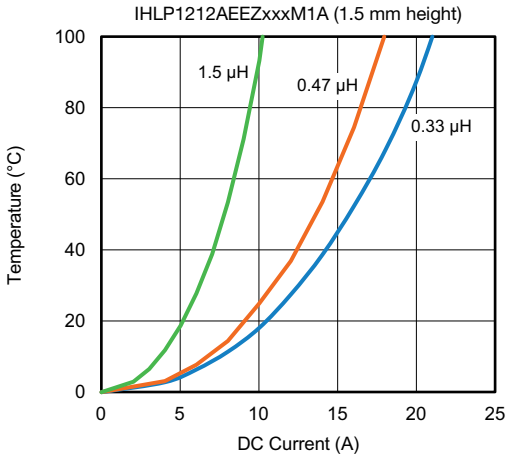


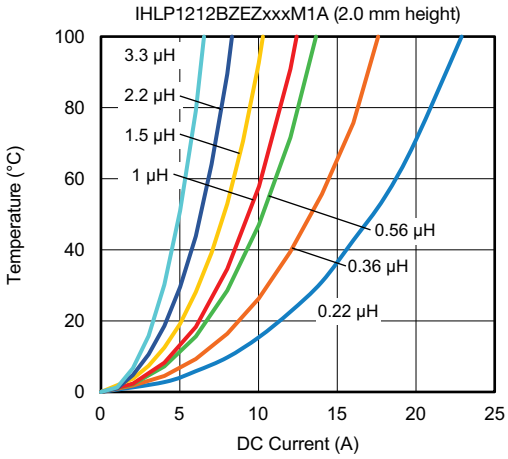




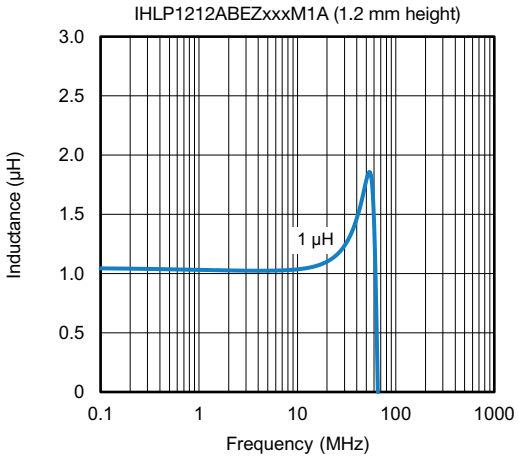
PERFORMANCE GRAPHS: TEMPERATURE RISE VS. DC CURRENT

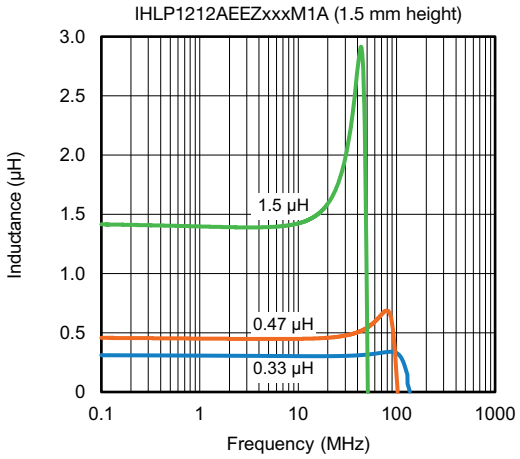


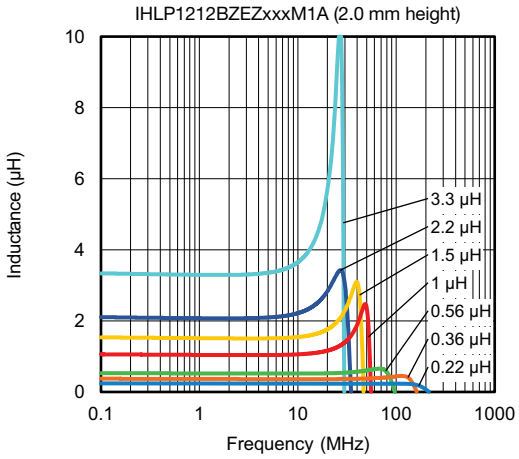




PERFORMANCE GRAPHS: INDUCTANCE VS. FREQUENCY







Disclaimer

ALL PRODUCT, PRODUCT SPECIFICATIONS AND DATA ARE SUBJECT TO CHANGE WITHOUT NOTICE TO IMPROVE RELIABILITY, FUNCTION OR DESIGN OR OTHERWISE.

Vishay Intertechnology, Inc., its affiliates, agents, and employees, and all persons acting on its or their behalf (collectively, “Vishay”), disclaim any and all liability for any errors, inaccuracies or incompleteness contained in any datasheet or in any other disclosure relating to any product.

Vishay makes no warranty, representation or guarantee regarding the suitability of the products for any particular purpose or the continuing production of any product. To the maximum extent permitted by applicable law, Vishay disclaims (i) any and all liability arising out of the application or use of any product, (ii) any and all liability, including without limitation special, consequential or incidental damages, and (iii) any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.

Statements regarding the suitability of products for certain types of applications are based on Vishay's knowledge of typical requirements that are often placed on Vishay products in generic applications. Such statements are not binding statements about the suitability of products for a particular application. It is the customer's responsibility to validate that a particular product with the properties described in the product specification is suitable for use in a particular application. Parameters provided in datasheets and / or specifications may vary in different applications and performance may vary over time. All operating parameters, including typical parameters, must be validated for each customer application by the customer's technical experts. Product specifications do not expand or otherwise modify Vishay's terms and conditions of purchase, including but not limited to the warranty expressed therein.

Hyperlinks included in this datasheet may direct users to third-party websites. These links are provided as a convenience and for informational purposes only. Inclusion of these hyperlinks does not constitute an endorsement or an approval by Vishay of any of the products, services or opinions of the corporation, organization or individual associated with the third-party website. Vishay disclaims any and all liability and bears no responsibility for the accuracy, legality or content of the third-party website or for that of subsequent links.

Vishay products are not designed for use in life-saving or life-sustaining applications or any application in which the failure of the Vishay product could result in personal injury or death unless specifically qualified in writing by Vishay. Customers using or selling Vishay products not expressly indicated for use in such applications do so at their own risk. Please contact authorized Vishay personnel to obtain written terms and conditions regarding products designed for such applications.

No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document or by any conduct of Vishay. Product names and markings noted herein may be trademarks of their respective owners.