VISHAY

www.vishay.com

IHLP-4040DZ-5A

Vishay Dale

IHLP® Automotive Inductors, High Temperature (155 °C) Series



FEATURES

- High temperature, up to 155 °C
- 10.8 mm x 10.2 mm x 4.0 mm SMD package
- Magnetically shielded construction
- Metal alloy core
- 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

3D Models | Design Tools | Product Page

APPLICATIONS

- Engine and transmission control units
- DC/DC converters for infotainment, navigation systems, lighting
- Noise suppression and filtering
- LED drivers

STANDARD ELECTRICAL SPECIFICATIONS

PART NUMBER	INDUCTANCE ± 20 % (µH) AT 0 A	DCR 25 °C (mΩ)		HEAT RATING CURRENT DC TYP. (A) (1)	SATURATION CURRENT DC TYP. (A) (2)		SRF TYP. (MHz)
		TYP.	MAX.		20 % DROP	30 % DROP	
IHLP4040DZE_R47M5A	0.47	1.55	1.66	35.5	28.5	38.0	72.1
IHLP4040DZE_R68M5A	0.68	2.17	2.32	35.0	24.0	32.0	42.5
IHLP4040DZE_1R0M5A	1.0	2.87	3.07	23.5	24.0	32.0	37.2
IHLP4040DZE_1R5M5A	1.5	4.20	4.50	22.0	17.9	24.2	32
IHLP4040DZE_2R2M5A	2.2	8.15	8.76	15.0	12.0	16.2	30.1
IHLP4040DZE_3R3M5A	3.3	11	11.81	11.0	12.0	16.2	25.5
IHLP4040DZE_4R7M5A	4.7	14.3	15.32	9.8	9.2	12.4	20.1
IHLP4040DZE_5R6M5A	5.6	16.5	17.60	9.3	9.0	12.2	16.3
IHLP4040DZE_6R8M5A	6.8	20.9	22.36	8.0	9.0	12.2	16.3
IHLP4040DZE_100M5A	10	30.9	33.06	6.5	8.5	11.5	11.5
IHLP4040DZE_150M5A	15	47	50.29	5.1	7.7	10.4	10.4
IHLP4040DZE_220M5A	22	70.5	75.44	4.1	6.4	8.6	8.3
IHLP4040DZE_330M5A	33	110	117.7	3.7	4.2	5.7	5.79
IHLP4040DZE_470M5A	47	167	178	3.1	4.1	5.5	5.22
IHLP4040DZE_680M5A	68	240	252	2.4	3.5	4.7	4.02

Notes

- All test data is referenced to 25 °C ambient
- Test condition: 100 kHz, 0.25 V
- 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, PCB 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

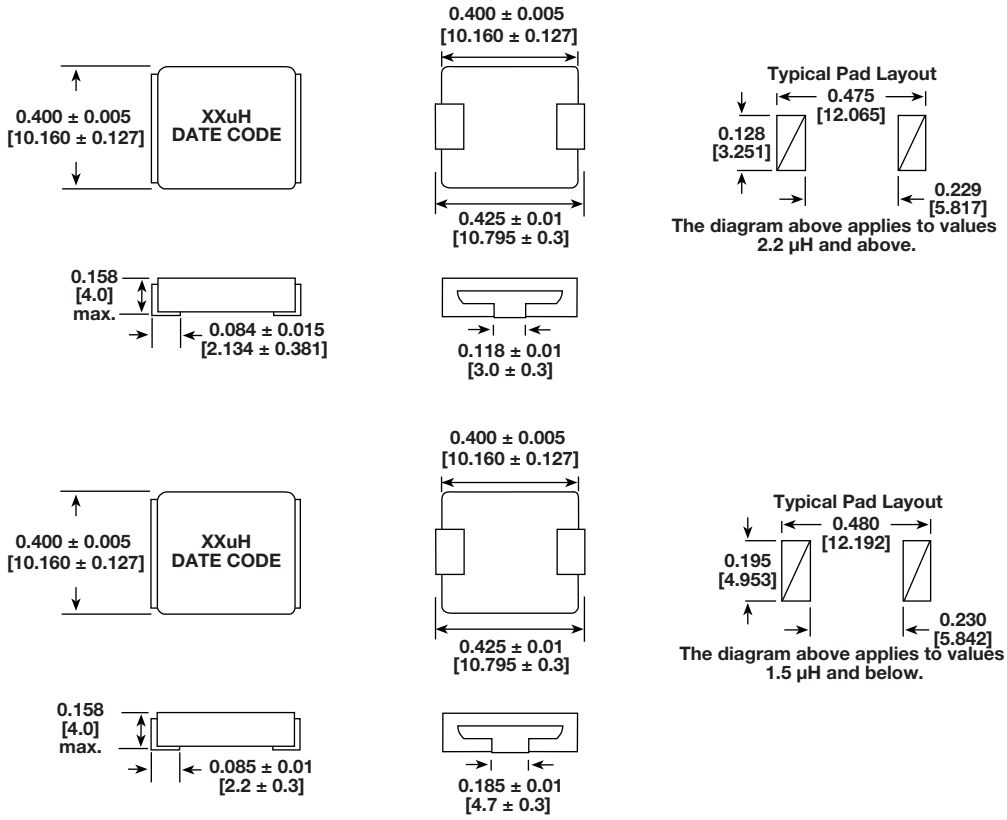
(2) DC current (A) that will cause L_0 to drop approximately 20 %

For technical questions, contact: magnetics@vishay.com

THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT www.vishay.com/doc?91000

Downloaded from Arrow.com.

DIMENSIONS in inches [millimeters]



DESCRIPTION

IHLP-4040DZ-5A	4.7 µH	± 20 %	TAPE AND REEL	e3
MODEL	INDUCTANCE VALUE	INDUCTANCE TOLERANCE	PACKAGE CODE	JEDEC® LEAD (Pb)-FREE STANDARD

GLOBAL PART NUMBER

I H L P	4 0 4 0 D Z	E K	4 R 7	M	5 A
PRODUCT FAMILY	SIZE	PACKAGE CODE	INDUCTANCE VALUE	INDUCTANCE TOLERANCE	SERIES
		EK = tape and reel	**4R7** = 4.7 µH	**M** = ± 20 %	

PACKAGE CODE OPTIONS

ER = tape and reel packaging (500 piece reel)

EK = tape and reel packaging (1000 piece reel)

EP = tape and reel packaging (1000 piece reel) + polarity marking

Notes

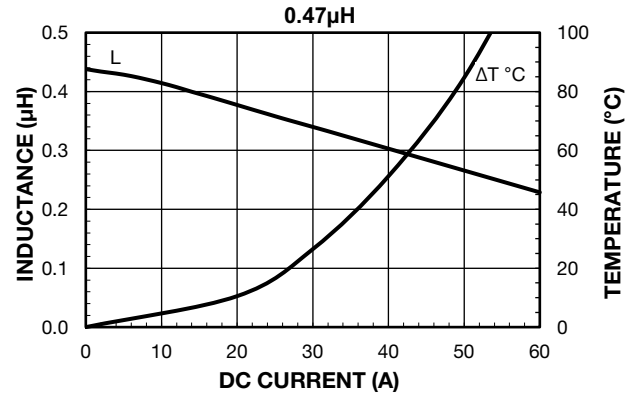
- For additional packaging details see "Packaging Methods"
- 1000 piece reel for IHLP4040DZ models contains tape pitch change

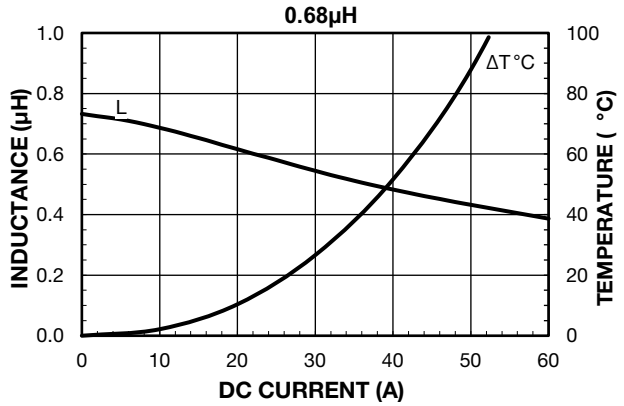
For technical questions, contact: magnetics@vishay.com

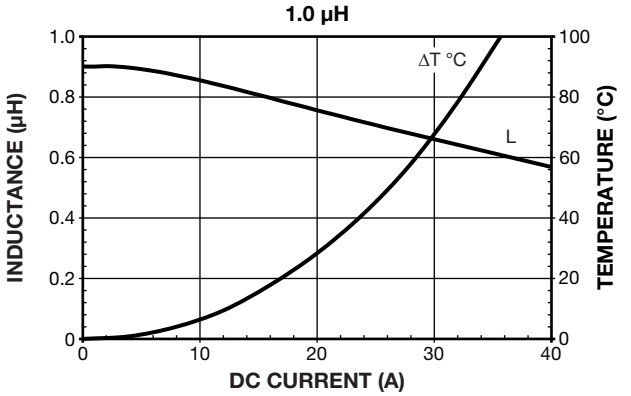
THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT www.vishay.com/doc?91000

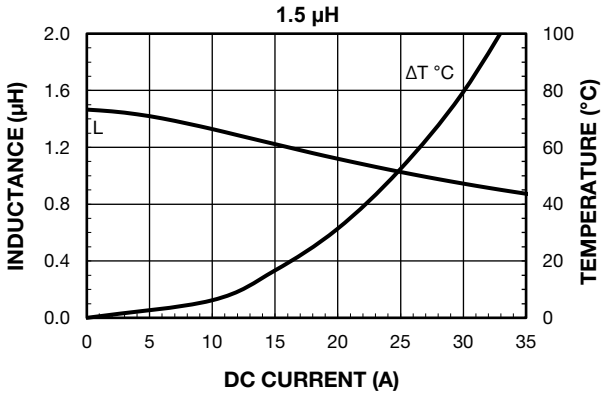
Downloaded from Arrow.com.

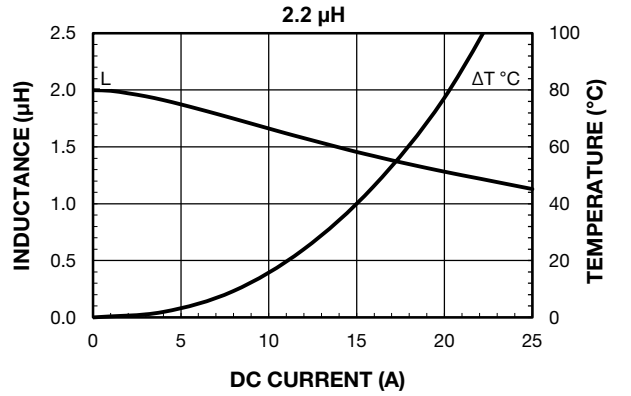
PERFORMANCE GRAPHS

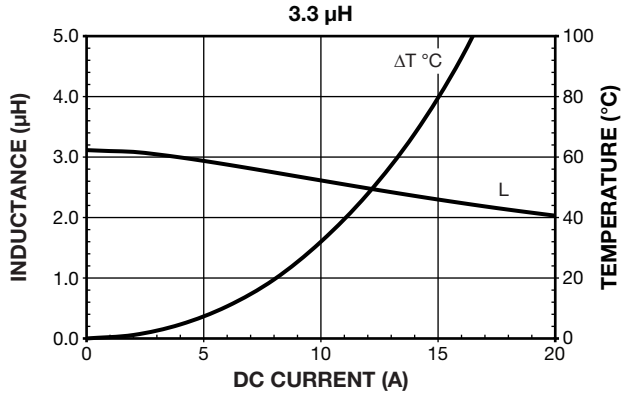


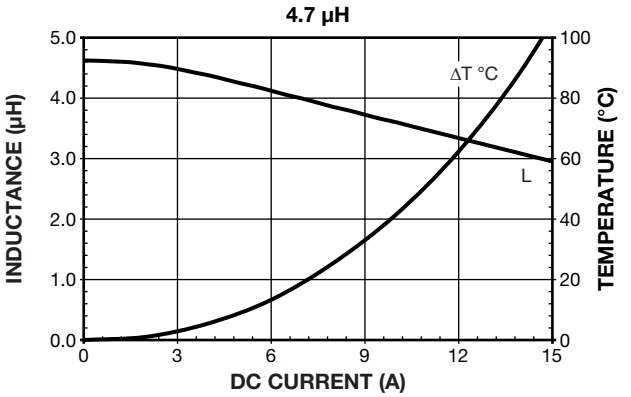


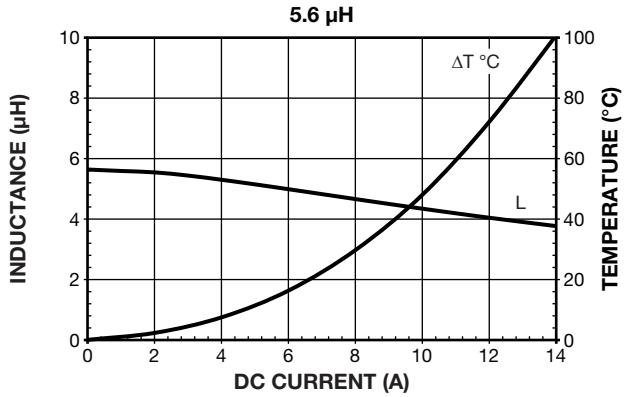












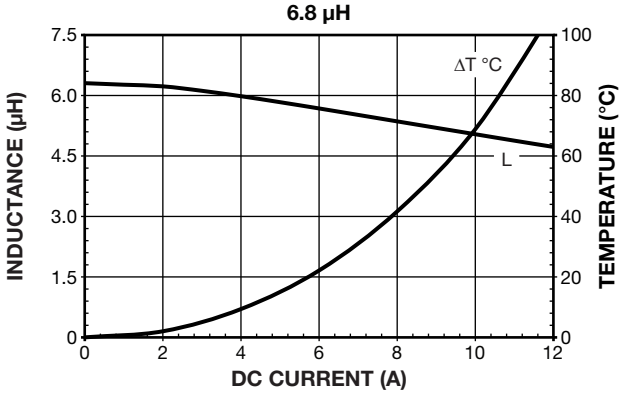
For technical questions, contact: magnetics@vishay.com

THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT www.vishay.com/doc?91000

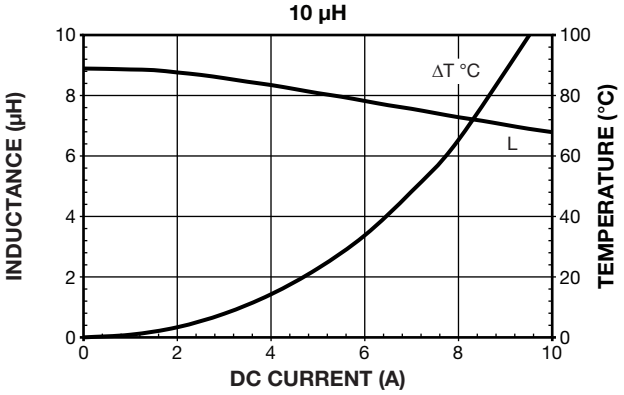
Downloaded from Arrow.com.

PERFORMANCE GRAPHS

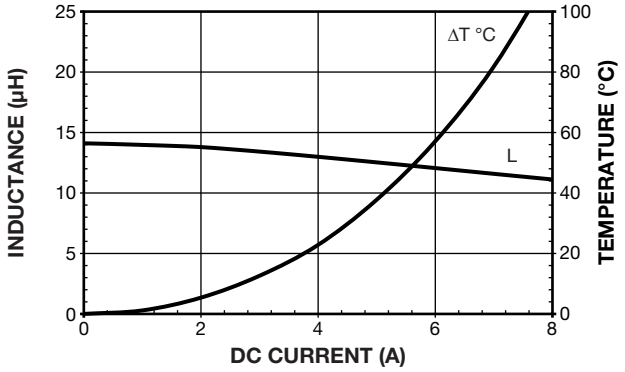
6.8 µH



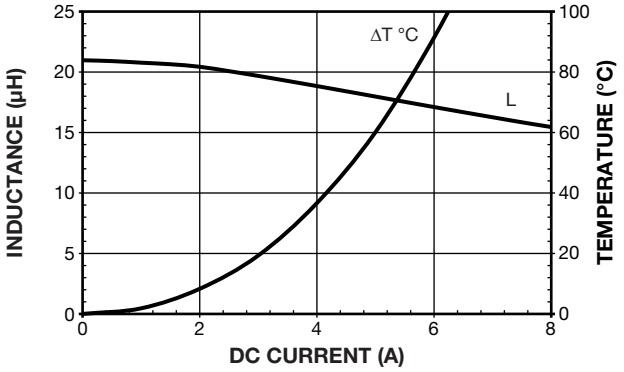
10 µH



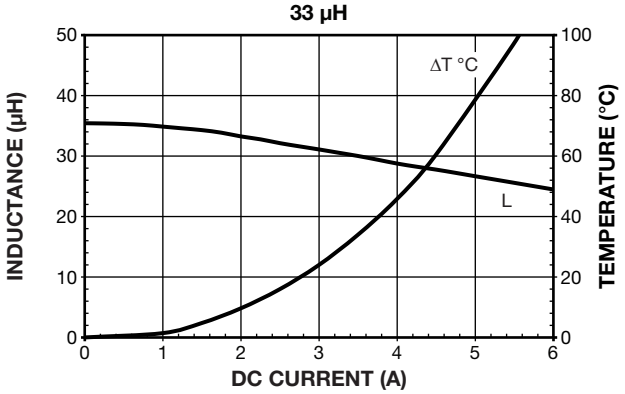
15 µH



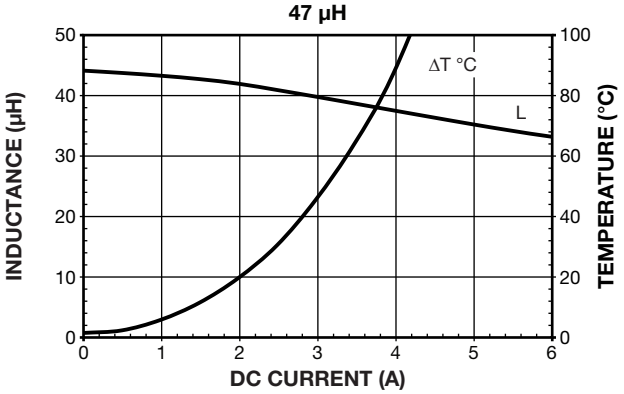
22 µH



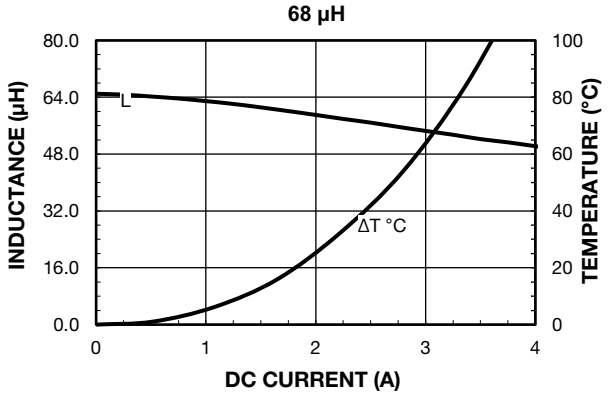
33 µH



47 µH



68 µH

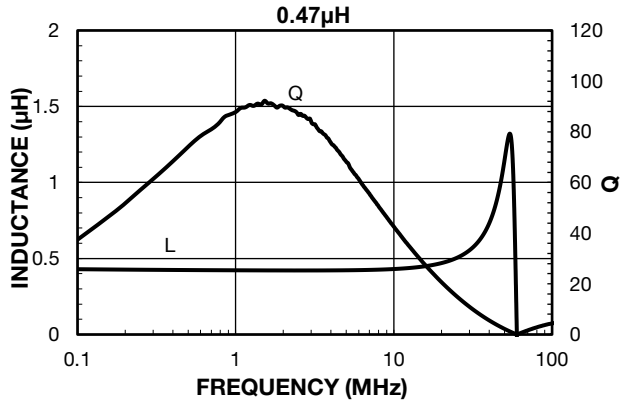


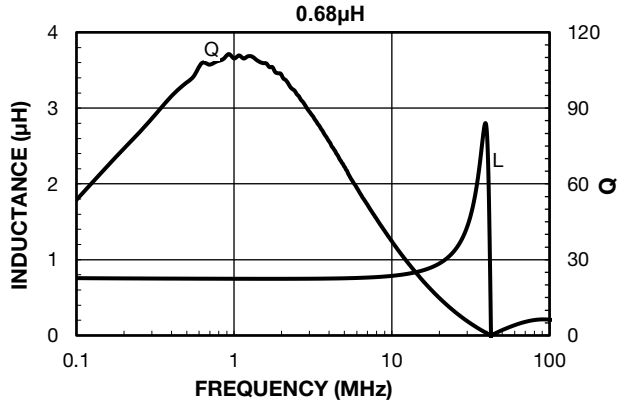
For technical questions, contact: magnetics@vishay.com

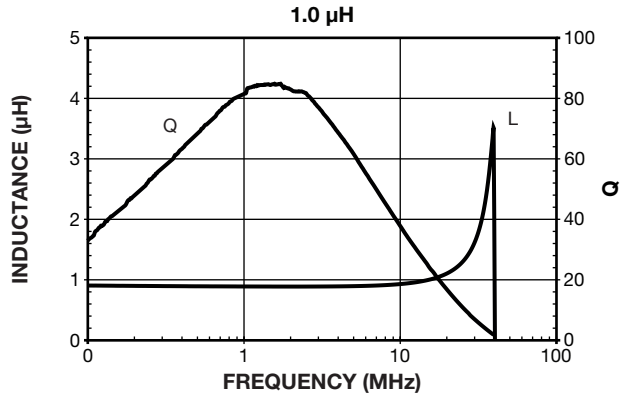
THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT www.vishay.com/doc?91000

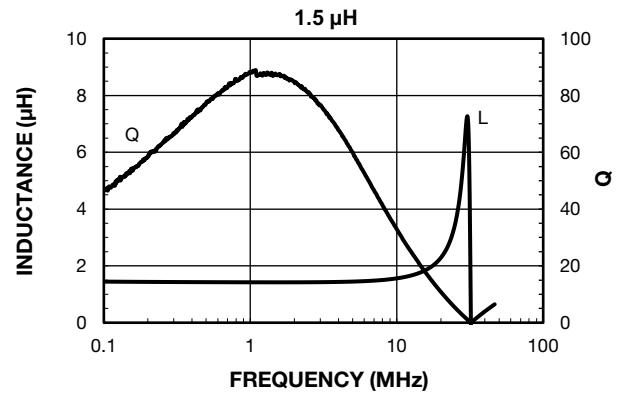
Downloaded from Arrow.com.

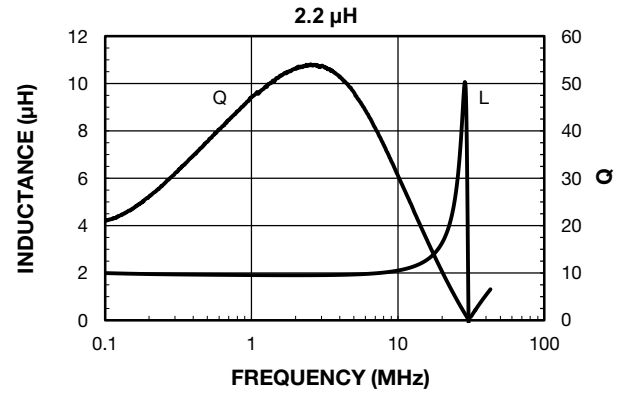
PERFORMANCE GRAPHS: INDUCTANCE AND Q VS. FREQUENCY

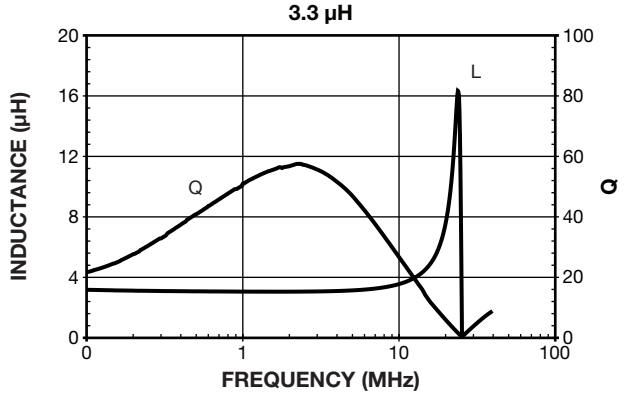


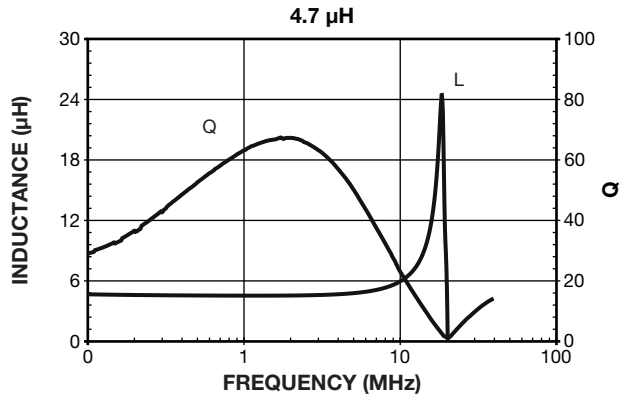


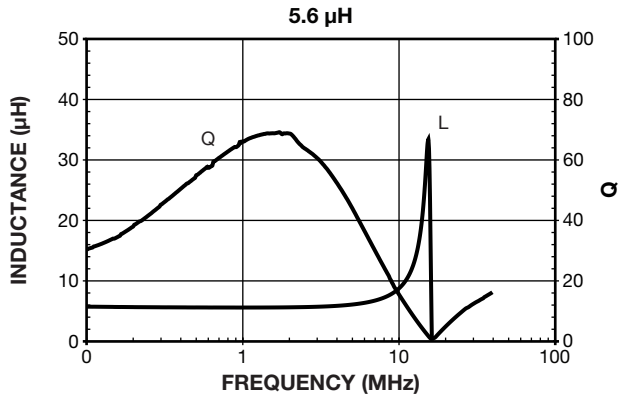










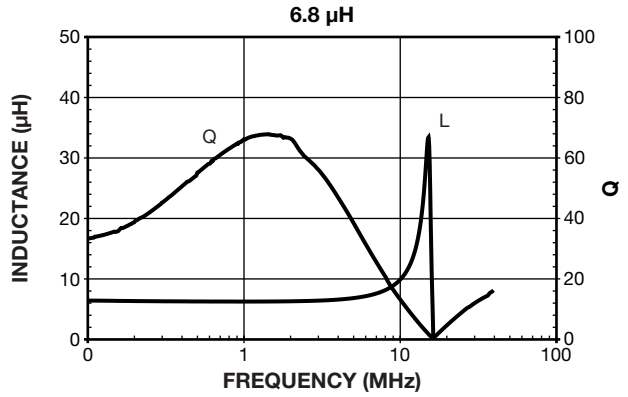


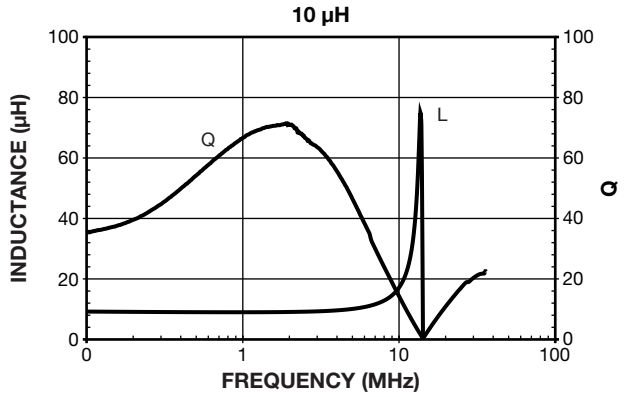
For technical questions, contact: magnetics@vishay.com

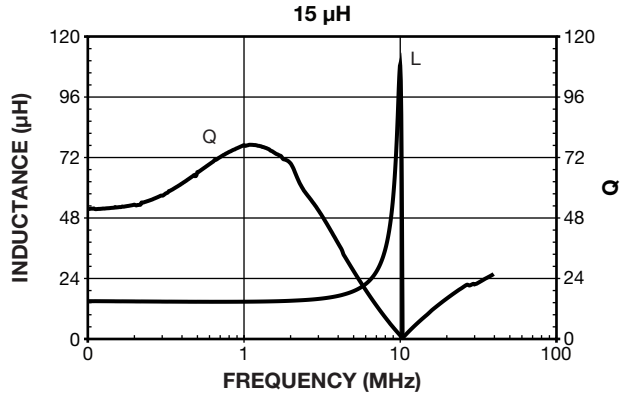
THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT www.vishay.com/doc?91000

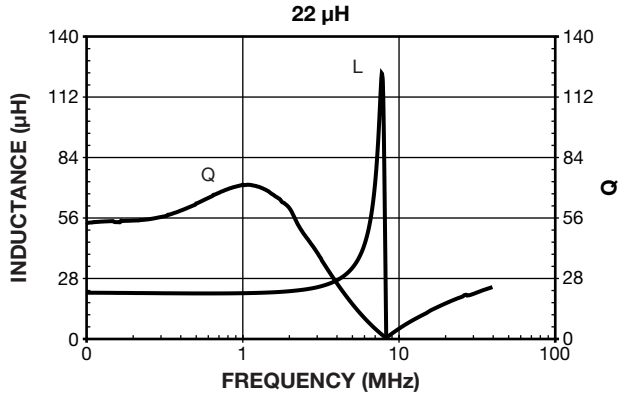
Downloaded from Arrow.com.

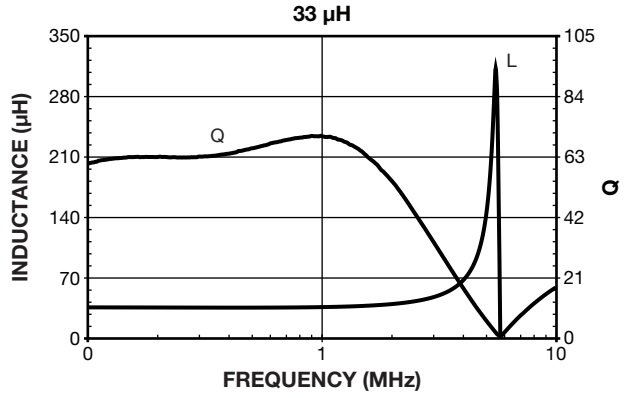
PERFORMANCE GRAPHS: INDUCTANCE AND Q VS. FREQUENCY

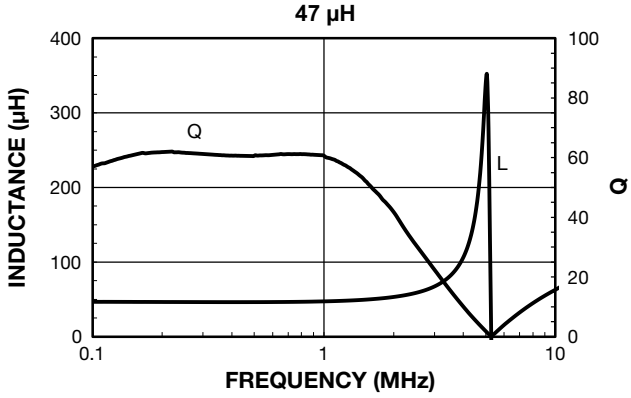


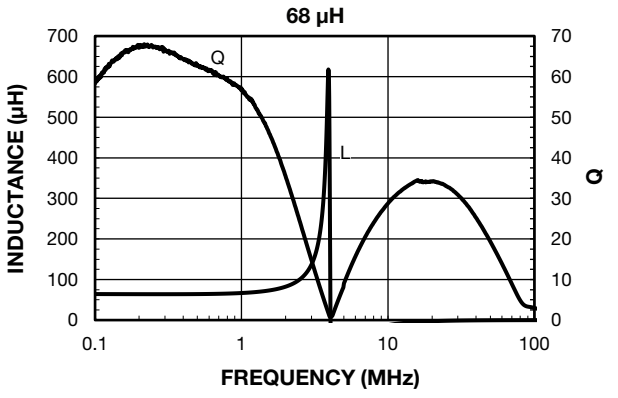












For technical questions, contact: magnetics@vishay.com

THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT www.vishay.com/doc?91000

Downloaded from Arrow.com.

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.

© 2025 VISHAY INTERTECHNOLOGY, INC. ALL RIGHTS RESERVED

THIS DOCUMENT IS SUBJECT TO CHANGE WITHOUT NOTICE. THE PRODUCTS DESCRIBED HEREIN AND THIS DOCUMENT ARE SUBJECT TO SPECIFIC DISCLAIMERS, SET FORTH AT www.vishay.com/doc?91000

Downloaded from Arrow.com.