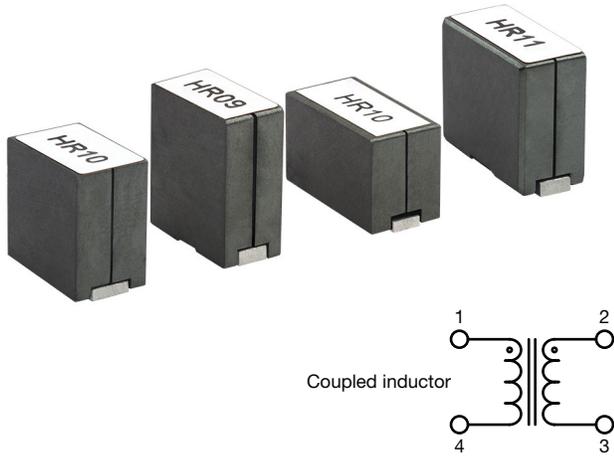


## Coupled Ferrite, High Current Power Inductors for TLVR Topologies



### FEATURES

- Optimized for trans-inductor voltage regulator (TLVR) topologies
- Enables near-instant power delivery for highly dynamic loads
- Tightens output voltage ripple and decreases size of output capacitors
- Low core loss due to ferrite construction
- Inductance range 70 nH to 220 nH
- 4 package sizes available
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



**RoHS**  
COMPLIANT  
HALOGEN  
**FREE**  
**GREEN**  
(5-2008)

### APPLICATIONS

- 12 V / 1.8 V 16-phase buck voltage regulators
- Datacenters, servers, storage systems
- Graphics processing units (GPU)
- Central processing unit (CPU)
- Application specific integrated circuit (ASIC)

### LINKS TO ADDITIONAL RESOURCES



Product Page

STANDARD ELECTRICAL SPECIFICATIONS							
PART NUMBER	TEST TERMINAL	L <sub>0</sub> INDUCTANCE AT 0 A ± 15 % (μH)	DCR ± 10 % (mΩ)	HEAT RATING CURRENT DC TYP. (A) <sup>(1)</sup>	SATURATION CURRENT DC TYP. (A) <sup>(2)</sup>		Q FACTOR AT 100 kHz MIN.
					AT 25 °C	AT 100 °C	
9.6 mm x 6.4 mm x 10.5 mm MAX.							
IHTL3825JEERR10L	1-4	0.100	0.125	75	98	83	21
	2-3		0.33	40			
IHTL3825JEERR12L	1-4	0.120	0.125	75	79	67	25
	2-3		0.33	40			
IHTL3825JEERR15L	1-4	0.150	0.125	75	62	53	27
	2-3		0.33	40			
IHTL3825JEERR18L	1-4	0.180	0.125	75	54	46	37
	2-3		0.33	40			
IHTL3825JEERR22L	1-4	0.220	0.125	75	50	41	46
	2-3		0.33	40			

### Notes

- All test data is referenced to 25 °C ambient
  - Test condition: 100 kHz, 1 V
  - Operating temperature range -40 °C to +125 °C
  - Storage condition: -40 °C to +125 °C (on board); less than 40 °C and < 60 % RH (in component packaging)
- <sup>(1)</sup> DC current (A) that will cause an approximate ΔT of 40 °C  
<sup>(2)</sup> DC current (A) that will cause L<sub>0</sub> to drop approximately 20 % at 25 °C, 100 °C, and 125 °C ambient



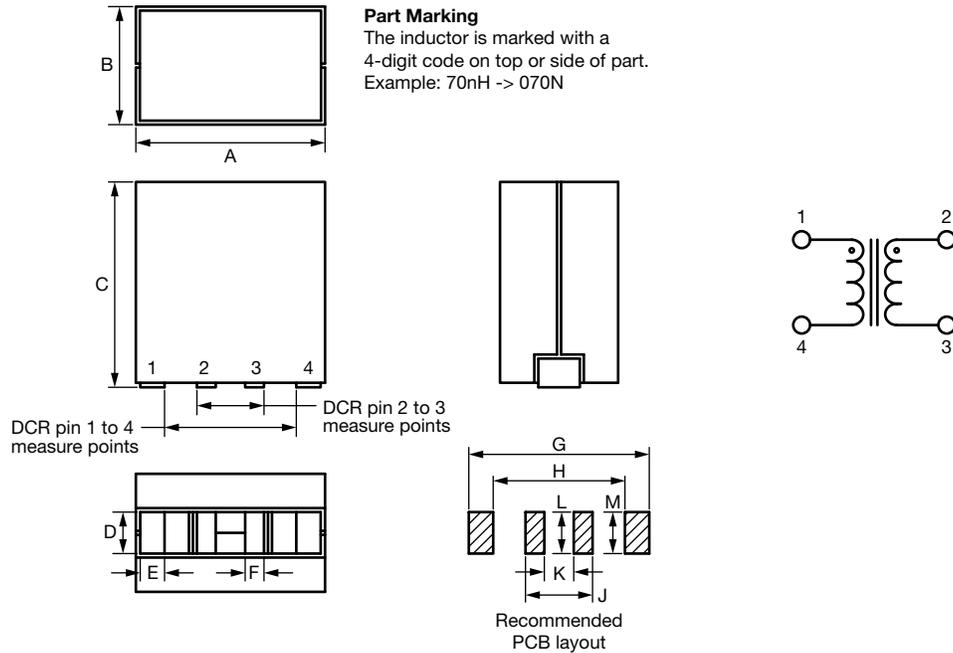
STANDARD ELECTRICAL SPECIFICATIONS							
PART NUMBER	TEST TERMINAL	L <sub>0</sub> INDUCTANCE AT 0 A ± 15 % (μH)	DCR ± 10 % (mΩ)	HEAT RATING CURRENT DC TYP. (A) <sup>(1)</sup>	SATURATION CURRENT DC TYP. (A) <sup>(2)</sup>		Q FACTOR AT 100 kHz MIN.
					AT 25 °C	AT 100 °C	
<b>10.0 mm x 5.0 mm x 12.0 mm MAX.</b>							
IHTL4020LZER70NL	1-4	0.070	0.125	75	127	110	15
	2-3		0.45	35			
IHTL4020LZER80NL	1-4	0.080	0.125	75	111	96	17
	2-3		0.45	35			
IHTL4020LZER90NL	1-4	0.090	0.125	75	98	85	19
	2-3		0.45	35			
<b>12.0 mm x 6.0 mm x 8.0 mm MAX.</b>							
IHTL5025HZER80NL	1-4	0.080	0.10	78	105	95	-
	2-3		0.30	45			
IHTL5025HZERR10L	1-4	0.100	0.10	78	85	75	-
	2-3		0.30	45			
IHTL5025HZERR12L	1-4	0.120	0.10	78	70	63	-
	2-3		0.30	45			
<b>12.0 mm x 6.0 mm x 11.2 mm MAX.</b>							
IHTL5025KBER80NL	1-4	0.080	0.125	77	150	128	19
	2-3		0.37	45			
IHTL5025KBERR10L	1-4	0.105	0.125	77	125	106	22
	2-3		0.37	45			
IHTL5025KBERR12L	1-4	0.120	0.125	77	102	87	23
	2-3		0.37	45			
IHTL5025KBERR15L	1-4	0.150	0.125	77	84	71	26
	2-3		0.37	45			
IHTL5025KBERR17L	1-4	0.170	0.125	77	70	60	28
	2-3		0.37	45			
IHTL5025KBERR20L	1-4	0.200	0.125	77	58	50	38
	2-3		0.37	45			

**Notes**

- All test data is referenced to 25 °C ambient
- Test condition: 100 kHz, 1 V
- Operating temperature range -40 °C to +125 °C
- Storage condition: -40 °C to +125 °C (on board); less than 40 °C and < 60 % RH (in component packaging)

<sup>(1)</sup> DC current (A) that will cause an approximate ΔT of 40 °C

<sup>(2)</sup> DC current (A) that will cause L<sub>0</sub> to drop approximately 20 % at 25 °C, 100 °C, and 125 °C ambient

**DIMENSIONS** in inches [millimeters]


MODEL	A	B	C	D	E	F	G	H	J	K	L	M
IHTL3825JE	0.366 ± 0.012 [9.3 ± 0.3]	0.240 ± 0.012 [6.1 ± 0.3]	0.402 ± 0.012 [10.2 ± 0.3]	0.126 ± 0.012 [3.2 ± 0.3]	0.045 ± 0.012 [1.15 ± 0.3]	0.024 ± 0.012 [0.6 ± 0.3]	0.374 [9.5]	0.244 [6.2]	0.130 [3.3]	0.020 [0.5]	0.146 [3.7]	0.146 [3.7]
IHTL4020LZ	0.382 ± 0.012 [9.7 ± 0.3]	0.185 ± 0.012 [4.7 ± 0.3]	0.461 ± 0.012 [11.7 ± 0.3]	0.091 ± 0.012 [2.3 ± 0.3]	0.043 ± 0.012 [1.1 ± 0.3]	0.034 ± 0.012 [0.86 ± 0.3]	0.417 [10.6]	0.280 [7.1]	0.157 [4.0]	0.031 [0.8]	0.118 [3.0]	0.197 [5.0]
IHTL5025HZ	0.472 max. [12.0 max.]	0.236 max. [6.0 max.]	0.315 max. [8.0 max.]	0.106 ± 0.012 [2.7 ± 0.3]	0.098 ± 0.012 [2.5 ± 0.3]	0.043 ± 0.012 [1.1 ± 0.3]	0.492 [12.5]	0.256 [6.5]	0.169 [4.3]	0.051 [1.3]	0.118 [3.0]	0.134 [3.4]
IHTL5025KB	0.461 ± 0.012 [11.7 ± 0.3]	0.224 ± 0.012 [5.7 ± 0.3]	0.433 ± 0.008 [11.0 ± 0.2]	0.096 ± 0.012 [2.45 ± 0.3]	0.045 ± 0.012 [1.15 ± 0.3]	0.051 ± 0.012 [1.3 ± 0.3]	0.469 [11.9]	0.327 [8.3]	0.169 [4.3]	0.039 [1.0]	0.116 [2.95]	0.116 [2.95]

**Note**

- Coplanarity of four terminals: 0.004" = 0.1 mm max.

**DESCRIPTION**

<b>IHTL5025KB</b>	<b>0.2 µH</b>	<b>± 15 %</b>	<b>ER</b>	<b>e3</b>
MODEL	INDUCTANCE VALUE	INDUCTANCE TOLERANCE	PACKAGE CODE	JEDEC® LEAD (Pb)-FREE STANDARD

**GLOBAL PART NUMBER**

<b>I H T L</b>	<b>5 0 2 5 K B</b>	<b>E R</b>	<b>R 2 0</b>	<b>L</b>
PRODUCT FAMILY	SIZE	PACKAGE CODE	INDUCTANCE VALUE	INDUCTANCE TOLERANCE
		ER = tape and reel	R20 = 0.2 µH	L = ± 15 %



## 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.