

## High Current, Surface-Mount Inductors - Shielded



### ELECTRICAL SPECIFICATIONS

**Inductance Range:** 1.0  $\mu\text{H}$  to 390.0  $\mu\text{H}$ , tested at 0.1  $V_{\text{RMS}}$

**Inductance Tolerance:** 20 %, tighter tolerance available upon request

**Operating Temperature:** -40 °C to +125 °C

**Resistance to Solder Heat:** 260 °C for 10 s

### FEATURES

- High energy storage
- Low resistance
- Magnetically shielded
- Tape and reel packaging for automatic handling
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



**RoHS**  
COMPLIANT  
HALOGEN  
**FREE**

### MECHANICAL SPECIFICATIONS

**Core:** ferrite

**Wire:** enamelled copper wire

**Base:** LCP

**Terminals:** nickel bronze

**Adhesive:** epoxy resin

STANDARD ELECTRICAL SPECIFICATIONS						
INDUCTANCE ( $\mu\text{H}$ )	INDUCTANCE ( $\mu\text{H}$ )	TOLERANCE	TEST FREQUENCY L (kHz)	DCR MAX. ( $\Omega$ )	$I_{\text{SAT}}$ (A)	$I_{\text{RMS}}$ (A)
IDCS5020ER1R0M	1.0	$\pm 20 \%$	100	0.021	5.6	5.0
IDCS5020ER1R5M	1.5	$\pm 20 \%$	100	0.022	5.2	4.5
IDCS5020ER2R2M	2.2	$\pm 20 \%$	100	0.032	5.0	3.8
IDCS5020ER3R3M	3.3	$\pm 20 \%$	100	0.039	3.9	3.3
IDCS5020ER4R7M	4.7	$\pm 20 \%$	100	0.054	3.2	2.7
IDCS5020ER6R8M	6.8	$\pm 20 \%$	100	0.075	2.8	2.2
IDCS5020ER100M	10	$\pm 20 \%$	100	0.101	2.4	2.0
IDCS5020ER150M	15	$\pm 20 \%$	100	0.150	2.0	1.5
IDCS5020ER220M	22	$\pm 20 \%$	100	0.207	1.6	1.3
IDCS5020ER330M	33	$\pm 20 \%$	100	0.334	1.4	1.1
IDCS5020ER470M	47	$\pm 20 \%$	100	0.472	1.0	0.80
IDCS5020ER560M	56	$\pm 20 \%$	100	0.210	0.95	0.90
IDCS5020ER680M	68	$\pm 20 \%$	100	0.340	0.90	0.82
IDCS5020ER820M	82	$\pm 20 \%$	100	0.380	0.85	0.75
IDCS5020ER101M	100	$\pm 20 \%$	100	0.420	0.80	0.68
IDCS5020ER121M	120	$\pm 20 \%$	100	0.460	0.70	0.60
IDCS5020ER151M	150	$\pm 20 \%$	100	0.520	0.60	0.55
IDCS5020ER181M	180	$\pm 20 \%$	100	0.700	0.65	0.50
IDCS5020ER221M	220	$\pm 20 \%$	100	0.800	0.50	0.45
IDCS5020ER271M	270	$\pm 20 \%$	100	1.100	0.45	0.40
IDCS5020ER331M	330	$\pm 20 \%$	100	1.200	0.40	0.35
IDCS5020ER391M	390	$\pm 20 \%$	100	1.400	0.35	0.33

### Notes

- Inductance drop = 10 % typ. at  $I_{\text{SAT}}$
- $\Delta T = 15 \text{ }^\circ\text{C}$  typ. at  $I_{\text{RMS}}$

DIMENSIONS in inches [millimeters]								
A (Max.)	B (Max.)	D (Max.)	E	F	G	H	I	J
0.510 [12.95]	0.370 [9.40]	0.200 [5.08]	0.100 [2.54]	0.100 [2.54]	0.300 [7.62]	0.115 [2.92]	0.290 [7.37]	0.110 [2.79]



DESCRIPTION				
IDCS-5020	10 $\mu$ H	$\pm 20\%$	ER	e3
MODEL	INDUCTANCE VALUE	INDUCTANCE TOLERANCE	PACKAGE CODE	JEDEC® LEAD (Pb)-FREE STANDARD

GLOBAL PART NUMBER				
I	D	C	S	
PRODUCT FAMILY				
	5	0	2	0
	SIZE			
		E	R	
		PACKAGE CODE		
		1	0	0
		INDUCTANCE VALUE		
				M
				INDUCTANCE TOLERANCE



## 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.

Except as expressly indicated in writing, Vishay products are not designed for use in medical, life-saving, or life-sustaining applications or for any other application in which the failure of the Vishay product could result in personal injury or death. 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.