



# Surface-Mount, Multi Layer High Frequency Ceramic Inductors



## MECHANICAL SPECIFICATIONS

**Solderability:** 95 % coverage after 3 s  $\pm$  1 s dip in 240 °C  $\pm$  5 °C solder following 60 s preheat at 100 °C to 150 °C and type R flux dip

**Resistance to Solder Heat:** 10 s  $\pm$  1 s in 260 °C  $\pm$  5 °C solder, after preheat and flux above

**Terminal Strength:** 10 kg for 10 s

**Flex:** 3 mm min. mounted on 0.8 mm thick PC board

## FEATURES

- High reliability
- Surface mountable
- Tape and reel packaging per EIA specifications: 10 000 pieces on 7" reel
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)



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

## ENVIRONMENTAL SPECIFICATIONS

**Operating Temperature:** -55 °C to +125 °C

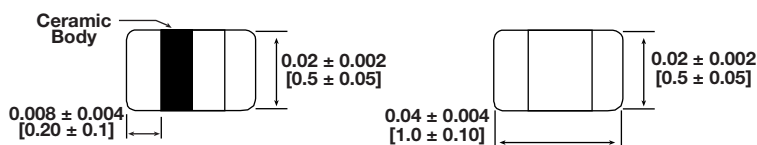
**Thermal Shock:** 1000 cycles, -55 °C to +125 °C

**Humidity:** +85 °C, 85 % RH, 1000 h at full rated current

**Load Life:** +125 °C for 1000 h at full rated current

## STANDARD ELECTRICAL SPECIFICATIONS

PART NUMBER	IND. (nH)	TOL.	TEST FREQUENCY (MHz)	Q MIN.	SRF (MHz) MIN.	DCR MAX. ( $\Omega$ )	RATED DC CURRENT MAX. (mA)
ILC0402ER1N0S	1.0	0.3 nH	100	8	8000	0.10	300
ILC0402ER1N2S	1.2	0.3 nH	100	8	8000	0.10	300
ILC0402ER1N5S	1.5	0.3 nH	100	8	8000	0.10	300
ILC0402ER1N8S	1.8	0.3 nH	100	8	6000	0.10	300
ILC0402ER2N2S	2.2	0.3 nH	100	8	6000	0.15	300
ILC0402ER2N7S	2.7	0.3 nH	100	8	6000	0.17	300
ILC0402ER3N3S	3.3	0.3 nH	100	8	6000	0.19	300
ILC0402ER3N9S	3.9	0.3 nH	100	8	6000	0.19	300
ILC0402ER4N7S	4.7	0.3 nH	100	8	6000	0.23	300
ILC0402ER5N6S	5.6	0.3 nH	100	8	5300	0.26	300
ILC0402ER6N8J	6.8	5 %	100	8	4200	0.29	300
ILC0402ER8N2J	8.2	5 %	100	8	3600	0.33	300
ILC0402ER10NJ	10	5 %	100	8	3200	0.35	300
ILC0402ER12NJ	12	5 %	100	8	2800	0.41	300
ILC0402ER15NJ	15	5 %	100	8	2300	0.46	300
ILC0402ER18NJ	18	5 %	100	8	2100	0.51	300
ILC0402ER22NJ	22	5 %	100	8	1400	0.58	300
ILC0402ER27NJ	27	5 %	100	8	1600	0.67	300
ILC0402ER33NJ	33	5 %	100	8	1500	0.67	200
ILC0402ER39NJ	39	5 %	100	8	1200	1.06	200
ILC0402ER47NJ	47	5 %	100	8	1000	1.15	200
ILC0402ER56NJ	56	5 %	100	8	800	1.20	200
ILC0402ER68NJ	68	5 %	100	8	800	1.25	180
ILC0402ER82NJ	82	5 %	100	8	600	1.40	150
ILC0402ERR10J	100	5 %	100	8	600	1.60	150
ILC0402ERR12J	120	5 %	100	8	600	1.60	150
ILC0402ERR15J	150	5 %	100	8	500	2.99	140
ILC0402ERR18J	180	5 %	100	8	500	3.38	150
ILC0402ERR22J	220	5 %	100	8	500	3.77	120
ILC0402ERR27J	270	5 %	100	8	400	4.90	110

**DIMENSIONS** in inches [millimeters]

**DESCRIPTION**

<b>ILC-0402</b>	<b>10 nH</b>	<b>± 5 %</b>	<b>ER</b>	<b>e3</b>
MODEL	INDUCTANCE VALUE	INDUCTANCE TOLERANCE	PACKAGE CODE	JEDEC® LEAD (Pb)-FREE STANDARD

**GLOBAL PART NUMBER**

<b>I</b>	<b>L</b>	<b>C</b>	<b>0</b>	<b>4</b>	<b>0</b>	<b>2</b>	<b>E</b>	<b>R</b>	<b>1</b>	<b>0</b>	<b>N</b>	<b>J</b>
PRODUCT FAMILY			SIZE				PACKAGE CODE		INDUCTANCE VALUE			TOL.



## 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.