

# Surface Mount, Multi Layer High Frequency Ceramic Inductors



## MECHANICAL SPECIFICATIONS

**Solderability:** 90 % coverage after 5 s dip in 235 °C solder following 60 s preheat at 120 °C and type R flux dip

**Resistance to Solder Heat:** 10 s in 260 °C solder, after preheat and flux above

**Terminal Strength:** 0.2 kg (0.44 lbs) for 30 s

**Beam Strength:** 0.2 kg (0.44 lbs)

**Flex:** 0.0788" [2.0 mm] min. mounted on 0.063" [1.6 mm] thick PC board

## FEATURES

- High reliability
- Surface mountable
- Reflow or wave solderable
- Tape and reel packaging per EIA specifications: 4000 pieces on 7" reel
- Compliant to RoHS Directive 2002/95/EC
- Halogen-free according to IEC 61249-2-21 definition



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

## ENVIRONMENTAL SPECIFICATIONS

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

**Thermal Shock:** 100 cycles, - 40 °C to + 85 °C

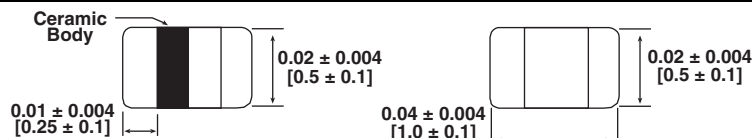
**Humidity:** + 40 °C, 85 % RH, 1000 h at full rated current

**Load Life:** 85 °C for 1000 h at full rated current

## STANDARD ELECTRICAL SPECIFICATIONS

PART NUMBER	IND. (nH)	TOL.	TEST FREQUENCY (MHz)	Q MIN.	Q TYPICAL			SRF (MHz)		DCR MAX. (Ω)	RATED DC CURRENT MAX. (mA)
					100 MHz	500 MHz	1000 MHz	MIN.	TYP.		
ILC0402ER1N0S	1.0	0.3 nH	100	8	10	21	30	10 000	18 000	0.12	300
ILC0402ER1N2S	1.2	0.3 nH	100	8	10	23	31	10 000	17 000	0.12	300
ILC0402ER1N5S	1.5	0.3 nH	100	8	10	25	35	6000	11 000	0.13	300
ILC0402ER1N8S	1.8	0.3 nH	100	8	10	25	35	6000	11 000	0.14	300
ILC0402ER2N2S	2.2	0.3 nH	100	8	10	23	32	6000	8700	0.16	300
ILC0402ER2N7S	2.7	0.3 nH	100	8	10	21	30	6000	7800	0.17	300
ILC0402ER3N3S	3.3	0.3 nH	100	8	10	22	31	6000	6400	0.19	300
ILC0402ER3N9S	3.9	0.3 nH	100	8	10	19	26	4000	5800	0.22	300
ILC0402ER4N7S	4.7	0.3 nH	100	8	10	19	26	4000	5100	0.24	300
ILC0402ER5N6S	5.6	0.3 nH	100	8	10	20	26	4000	4700	0.27	300
ILC0402ER6N8J	6.8	5 %	100	8	10	19	26	3900	4200	0.32	250
ILC0402ER8N2J	8.2	5 %	100	8	10	22	29	3600	3800	0.37	250
ILC0402ER10NJ	10	5 %	100	8	10	18	23	3200	3400	0.42	250
ILC0402ER12NJ	12	5 %	100	8	10	18	23	2700	2900	0.50	250
ILC0402ER15NJ	15	5 %	100	8	10	19	24	2300	2500	0.55	250
ILC0402ER18NJ	18	5 %	100	8	10	20	25	2100	2400	0.65	200
ILC0402ER22NJ	22	5 %	100	8	10	22	26	1900	2200	0.80	200
ILC0402ER27NJ	27	5 %	100	8	10	22	25	1600	2000	0.90	200
ILC0402ER33NJ	33	5 %	100	8	10	19	20	1300	1800	1.00	200
ILC0402ER39NJ	39	5 %	100	8	10	21	20	1200	1600	1.20	150
ILC0402ER47NJ	47	5 %	100	8	10	18	15	1000	1500	1.30	150
ILC0402ER56NJ	56	5 %	100	8	11	21	14	750	1200	1.40	150
ILC0402ER68NJ	68	5 %	100	8	11	18	12	750	1250	1.40	150
ILC0402ER82NJ	82	5 %	100	8	11	19	8	600	1100	2.00	100
ILC0402ERR10J	100	5 %	100	8	11	17	2	600	1000	2.00	100

## DIMENSIONS in inches [millimeters]



## DESCRIPTION

ILC-0402	10 nH	± 10 %	ER	e3
MODEL	INDUCTANCE VALUE	INDUCTANCE TOLERANCE	PACKAGE CODE	JEDEC LEAD (Pb)-FREE STANDARD

## GLOBAL PART NUMBER

I	L	C	0	4	0	2	E	R	1	0	N	K
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.

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.

## Material Category Policy

**Vishay Intertechnology, Inc. hereby certifies that all its products that are identified as RoHS-Compliant fulfill the definitions and restrictions defined under Directive 2011/65/EU of The European Parliament and of the Council of June 8, 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment (EEE) - recast, unless otherwise specified as non-compliant.**

**Please note that some Vishay documentation may still make reference to RoHS Directive 2002/95/EC. We confirm that all the products identified as being compliant to Directive 2002/95/EC conform to Directive 2011/65/EU.**

**Vishay Intertechnology, Inc. hereby certifies that all its products that are identified as Halogen-Free follow Halogen-Free requirements as per JEDEC JS709A standards. Please note that some Vishay documentation may still make reference to the IEC 61249-2-21 definition. We confirm that all the products identified as being compliant to IEC 61249-2-21 conform to JEDEC JS709A standards.**

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Vishay:

<a href="#"><u>ILC0402RK8N2K</u></a>	<a href="#"><u>ILC0402RK56NK</u></a>	<a href="#"><u>ILC0402RK33NK</u></a>	<a href="#"><u>ILC0402RK47NK</u></a>	<a href="#"><u>ILC0402RK2N2S</u></a>	<a href="#"><u>ILC0402RK2N7S</u></a>
<a href="#"><u>ILC0402RK82NK</u></a>	<a href="#"><u>ILC0402RK68NK</u></a>	<a href="#"><u>ILC0402RK12NK</u></a>	<a href="#"><u>ILC0402RK18NK</u></a>	<a href="#"><u>ILC0402RK6N8K</u></a>	<a href="#"><u>ILC0402RK39NK</u></a>
<a href="#"><u>ILC0402RK5N6S</u></a>	<a href="#"><u>ILC0402RK4N7S</u></a>	<a href="#"><u>ILC0402RK3N9S</u></a>	<a href="#"><u>ILC0402RK3N3S</u></a>	<a href="#"><u>ILC0402RK1N0S</u></a>	<a href="#"><u>ILC0402RK1N8S</u></a>
<a href="#"><u>ILC0402RK1N2S</u></a>	<a href="#"><u>ILC0402RK1N5S</u></a>	<a href="#"><u>ILC0402RK27NK</u></a>	<a href="#"><u>ILC0402RK15NK</u></a>	<a href="#"><u>ILC0402RK22NK</u></a>	<a href="#"><u>ILC0402ER10NK</u></a>
<a href="#"><u>ILC0402ER18NK</u></a>	<a href="#"><u>ILC0402ER1N0S</u></a>	<a href="#"><u>ILC0402ER1N2S</u></a>	<a href="#"><u>ILC0402ER22NK</u></a>	<a href="#"><u>ILC0402RK10</u></a>	<a href="#"><u>ILC0402ER1N5S</u></a>
<a href="#"><u>ILC0402ER12NK</u></a>	<a href="#"><u>ILC0402ER15NK</u></a>	<a href="#"><u>ILC0402ER1N8S</u></a>	<a href="#"><u>ILC0402ER6N8K</u></a>	<a href="#"><u>ILC0402ER3N9S</u></a>	<a href="#"><u>ILC0402ER3N3S</u></a>
<a href="#"><u>ILC0402ER47NK</u></a>	<a href="#"><u>ILC0402ER8N2K</u></a>	<a href="#"><u>ILC0402ER39NK</u></a>	<a href="#"><u>ILC0402ER4N7S</u></a>	<a href="#"><u>ILC0402ER33NK</u></a>	<a href="#"><u>ILC0402ER2N2S</u></a>
<a href="#"><u>ILC0402ER27NK</u></a>					