



Wirewound, Surface-Mount RF Chip Inductors



LINKS TO ADDITIONAL RESOURCES



Product Page

TEST EQUIPMENT

- Inductance is measured in HP4287A RF LCR meter with HP16193 fixture
- Q is measured in HP4287A RF LCR meter with HP16193 fixture
- SRF is measured in HP8753E RF network analyzer
- DCR is measured in HP4338B milliohmeter

FEATURES

- RF inductors for high frequency filtering and impedance matching
- Size: 1.0 mm x 0.55 mm x 0.5 mm
- Terminations: electroplated Au over Ni underlayer over Mo/Mn base
- Coilform material: non-magnetic ceramic
- Weight: 0.0008 g
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912



RoHS
COMPLIANT
HALOGEN
FREE

ELECTRICAL SPECIFICATIONS

Inductance Range: 1 nH to 120 nH

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

Storage Temperature: -40 °C to +125 °C

Resistance to Solder Heat: 260 °C for 30 s max.

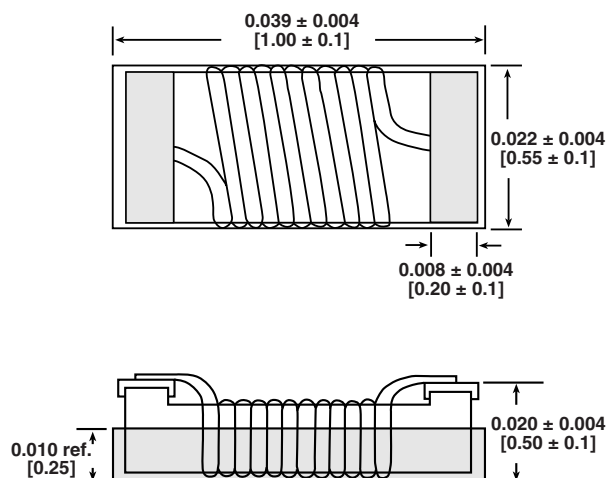
STANDARD ELECTRICAL SPECIFICATIONS

PART NUMBER	IND. (nH)	TOLERANCE	TEST FREQ. (MHz)	Q MIN.	SRF MIN. (MHz)	DCR MAX. (Ω)	RATED DC CURRENT (mA) ⁽¹⁾
			L & Q				
IMC0402ER1N0S01	1.0	0.3 nH, 0.2 nH	250	13	6000	0.045	1360
IMC0402ER1N9S01	1.9	0.3 nH, 0.2 nH	250	16	6000	0.070	1040
IMC0402ER2N0S01	2.0	0.3 nH, 0.2 nH	250	16	6000	0.070	1040
IMC0402ER2N2S01	2.2	0.3 nH, 0.2 nH	250	18	6000	0.070	960
IMC0402ER2N4S01	2.4	0.3 nH, 0.2 nH	250	16	6000	0.068	790
IMC0402ER2N7S01	2.7	0.3 nH, 0.2 nH	250	16	6000	0.120	640
IMC0402ER3N3S01	3.3	0.3 nH, 0.2 nH	250	20	6000	0.066	840
IMC0402ER3N6S01	3.6	0.3 nH, 0.2 nH	250	20	6000	0.066	840
IMC0402ER3N9K01	3.9	10 %, 5 %	250	20	6000	0.066	840
IMC0402ER4N3K01	4.3	10 %, 5 %	250	18	6000	0.091	700
IMC0402ER4N7K01	4.7	10 %, 5 %	250	15	4775	0.130	640
IMC0402ER5N1K01	5.1	10 %, 5 %	250	23	5800	0.083	800
IMC0402ER5N6K01	5.6	10 %, 5 %	250	23	5800	0.083	760
IMC0402ER6N2K01	6.2	10 %, 5 %	250	23	5800	0.083	760
IMC0402ER6N8K01	6.8	10 %, 5 %	250	20	4800	0.083	680
IMC0402ER7N5K01	7.5	10 %, 5 %	250	25	5800	0.104	680
IMC0402ER8N2K01	8.2	10 %, 5 %	250	25	4400	0.104	680
IMC0402ER8N7K01	8.7	10 %, 5 %	250	18	4100	0.200	480
IMC0402ER9N0K01	9.0	10 %, 5 %	250	25	4160	0.104	680
IMC0402ER9N5K01	9.5	10 %, 5 %	250	18	4000	0.200	680
IMC0402ER10NJ01	10	5 %, 2 %	250	23	3900	0.195	480
IMC0402ER11NJ01	11	5 %, 2 %	250	26	3680	0.120	640
IMC0402ER12NJ01	12	5 %, 2 %	250	26	3600	0.120	640
IMC0402ER13NJ01	13	5 %, 2 %	250	24	3450	0.210	560
IMC0402ER15NJ01	15	5 %, 2 %	250	26	3280	0.172	560
IMC0402ER16NJ01	16	5 %, 2 %	250	24	3100	0.220	560
IMC0402ER18NJ01	18	5 %, 2 %	250	25	3100	0.230	420
IMC0402ER19NJ01	19	5 %, 2 %	250	26	3040	0.202	480
IMC0402ER20NJ01	20	5 %, 2 %	250	25	3000	0.250	420
IMC0402ER22NJ01	22	5 %, 2 %	250	25	2800	0.300	400
IMC0402ER23NJ01	23	5 %, 2 %	250	26	2720	0.214	400
IMC0402ER24NJ01	24	5 %, 2 %	250	25	2700	0.298	400
IMC0402ER27NJ01	27	5 %, 2 %	250	26	2480	0.300	400

STANDARD ELECTRICAL SPECIFICATIONS

PART NUMBER	IND. (nH)	TOLERANCE	TEST FREQ. (MHz)	Q MIN.	SRF MIN. (MHz)	DCR MAX. (Ω)	RATED DC CURRENT (mA) ⁽¹⁾
			L & Q				
IMC0402ER30NJ01	30	5 %, 2 %	250	25	2350	0.300	400
IMC0402ER33NJ01	33	5 %, 2 %	250	24	2350	0.350	400
IMC0402ER36NJ01	36	5 %, 2 %	250	26	2320	0.403	320
IMC0402ER39NJ01	39	5 %, 2 %	250	25	2100	0.550	320
IMC0402ER40NJ01	40	5 %, 2 %	250	26	2240	0.438	320
IMC0402ER43NJ01	43	5 %, 2 %	250	25	2030	0.810	100
IMC0402ER47NJ01	47	5 %, 2 %	200	26	2100	0.830	150
IMC0402ER51NJ01	51	5 %	200	25	1750	0.820	100
IMC0402ER56NJ01	56	5 %	200	22	1760	0.970	100
IMC0402ER68NJ01	68	5 %	200	22	1620	1.120	100
IMC0402ER82NJ01	82	5 %	150	20	1500	1.250	100
IMC0402ERR10J01	100	5 %	150	20	1300	2.520	100
IMC0402ERR12J01	120	5 %	150	20	1100	2.660	100

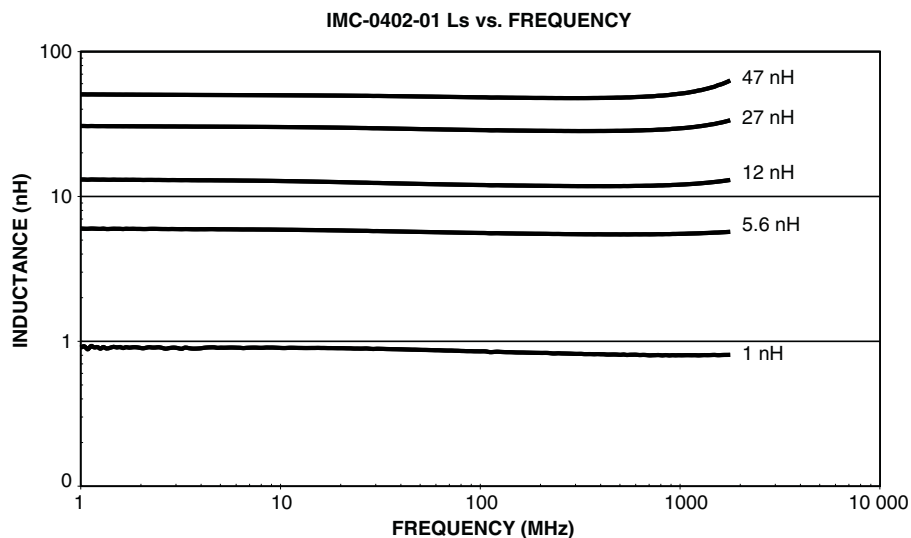
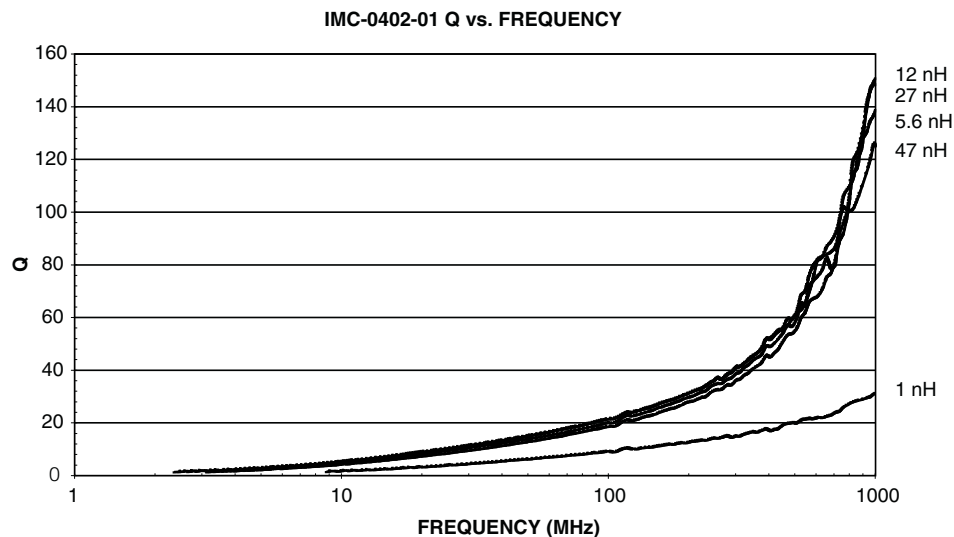
Note
⁽¹⁾ Value obtained when current flows and temperature has risen 15 °C

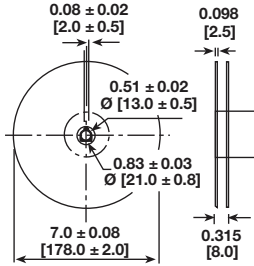
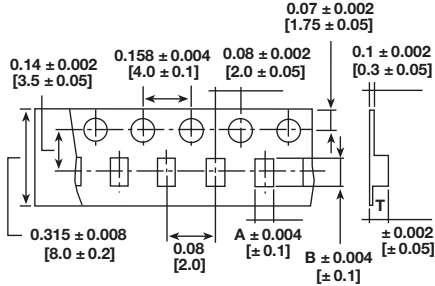
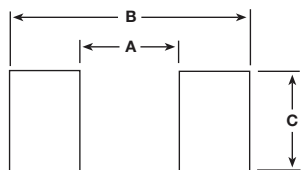
DIMENSIONS in inches [millimeters]

DESCRIPTION

IMC0402-01	10 nH	± 5 %	ER	e4
MODEL	INDUCTANCE VALUE	INDUCTANCE TOLERANCE	PACKAGE CODE	JEDEC LEAD (Pb)-FREE STANDARD

GLOBAL PART NUMBER

I M C	0 4 0 2	E R	1 0 N	J	0 1
PRODUCT FAMILY	SIZE	PACKAGE CODE	INDUCTANCE	TOLERANCE	SERIES
		ER = tape and reel	1N0 = 1 nH 10N = 10 nH R10 = 100 nH	K = ± 10 % J = ± 5 % G = ± 2 % S = 0.3 nH C = 0.2 nH	

PERFORMANCE GRAPHS (IMC-0402-01)

TAPE AND REEL SPECIFICATIONS in inches [millimeters]

REEL DIMENSIONS		TAPE DIMENSIONS				RECOMMENDED PATTERN			
									
MODEL	UNITS PER REEL	MODEL	A	B	T	MODEL	A	B	C
IMC-0402-01	10 000	IMC-0402-01	0.028 [0.70]	0.047 [1.20]	0.028 [0.70]	IMC-0402-01	0.018 [0.45]	0.063 [1.60]	0.0256 [0.65]



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.