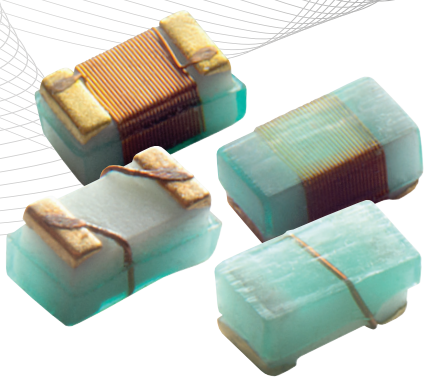
TESTING LEVEL 1 | TEMPERATURE RANGE -40/+125 | ROHS COMPLIANT | HALOGEN FREE



C0603 Series

Chip Inductors, Open Construction Commercial Applications

Features and Benefits

- Manufactured & Tested in the USA by an AS9100C certified company for a high level of reliability.
- High-temperature Ceramic Cores & Magnet Wire provide excellent temperature stability and mechanical ruggedness.
- High Q & Ultra High SRF values enable stable inductor functionality into multi GHz range.
- Low AC & DC resistance, minimizing voltage drops and dissipated power to increase efficiency.
- Small package size to minimize board space.

Parameters

Current Rating at 90°C Ambient 35°C Rise
Operating Temperature Range -40°C to +125°C
Part Storage Temperature Range -40° C to +125°C
Maximum Power Dissipation at 90° C 0.100 W
Electrical Characteristics Measured at +25°C
Inductance Measured at 1VAC with no DC Current Testing
DWV 200 Vrms at Sea Level
80 Vrms at 70,000 feet altitude
IR at 100 Vdc 1000 Mohms Min.
Weight/Mass 0.008 Grams (0.00028 ounces) Maximum

Core Material / Termination Finish

Al_2O_3 / MoMn / Ni / Au

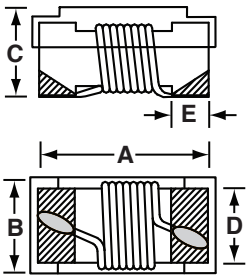
Testing Level 1★

Electrical Characteristics L, Q, DCR

Inductance and Q are tested using Keysight E4982A, or equivalent, with test fixture HP16197A or equivalent.

Country of Orgin: USA

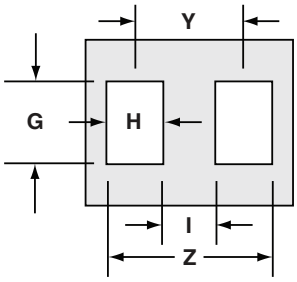
Dimensions



	Inches	Millimeters
A	0.071 Max.	1.80 Max.
B	0.047 Max.	1.19 Max.
C	0.040 Max.	1.02 Max.
D	0.030 (Ref. Only)	0.76 (Ref. Only)
E	0.018 (Ref. Only)	0.44 (Ref. Only)

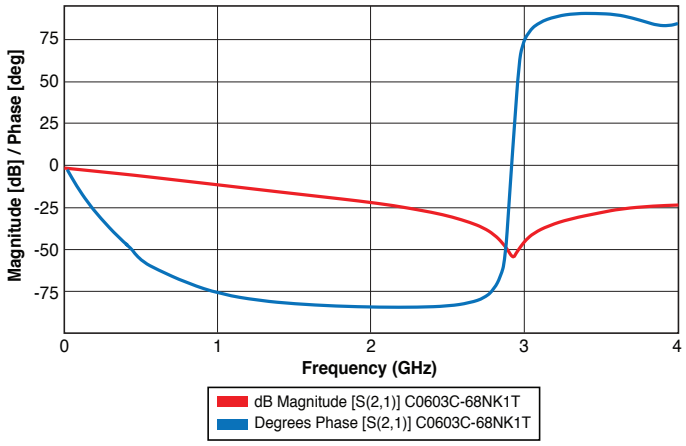
Dimensions A and C are over terminals

Suggested Land Pattern



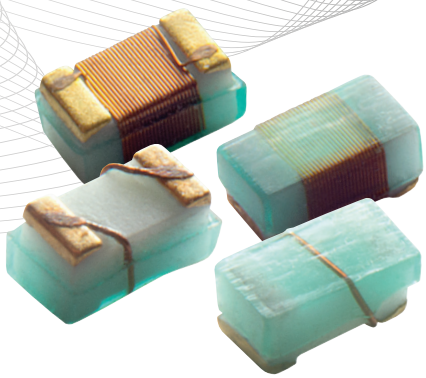
	Inches	Millimeters
Z	0.075	1.905
I	0.025	0.635
G	0.040	1.016
H	0.025	0.635
Y	0.050	1.270

S-Parameters (Typical)



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Commercial Applications

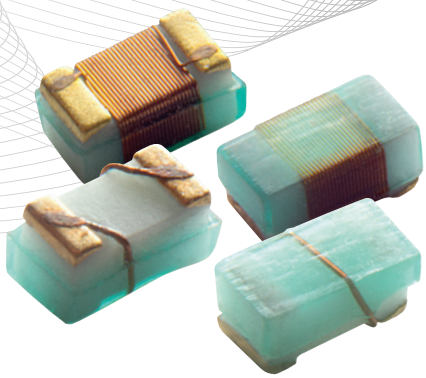
Part Number Prefix	Inductance (nH)	Percentage Tolerance (+/-)	Test Freq (MHz)	Q (Min.)	900 MHz L (Est.)*	900 MHz Q (Est.)*	1.7 GHz L (Est.)*	1.7 GHz Q (Est.)*	SRF Min (GHz)	DCR Max (Ohms)	Irms (mA)
C0603C-1N60	1.6	5	250 MHz	20	1.7	49	1.7	63	8.50	0.06	1000
C0603C-1N80	1.8	5	250 MHz	22	1.6	35	1.7	50	8.50	0.07	1000
C0603C-2N20	2.2	5	250 MHz	13	2.2	31	2.2	44	6.00	0.25	400
C0603C-3N30	3.3	5, 2	250 MHz	22	3.3	75	3.4	88	6.00	0.07	1000
C0603C-3N60	3.6	5, 2	250 MHz	22	3.7	53	3.7	65	6.00	0.07	1000
C0603C-3N90	3.9	5, 2	250 MHz	22	4.0	49	4.0	67	6.00	0.07	1000
C0603C-4N30	4.3	5, 2	250 MHz	22	4.3	50	4.3	70	6.00	0.09	885
C0603C-4N70	4.7	5, 2	250 MHz	22	4.7	47	4.8	57	6.00	0.09	885
C0603C-5N10	5.1	5, 2	250 MHz	20	4.9	47	5.0	56	5.70	0.14	700
C0603C-5N60	5.6	5, 2	250 MHz	22	5.8	63	6.1	80	5.80	0.10	840
C0603C-6N80	6.8	5, 2	250 MHz	30	6.8	60	7.1	81	5.80	0.10	840
C0603C-7N50	7.5	5, 2	250 MHz	28	7.7	60	7.8	65	4.80	0.14	700
C0603C-8N20	8.2	5, 2	250 MHz	30	8.3	82	8.4	87	4.20	0.14	700
C0603C-8N70	8.7	5, 2	250 MHz	30	8.9	62	9.3	58	5.20	0.14	700
C0603C-9N50	9.5	5, 2	250 MHz	28	9.7	59	9.9	61	4.80	0.15	700
C0603C-10N0	10	5, 2	250 MHz	31	10.0	66	10.6	83	4.80	0.16	665
C0603C-11N0	11	5, 2	250 MHz	30	11.0	53	11.5	56	4.00	0.13	700
C0603C-12N0	12	5, 2	250 MHz	35	12.3	72	13.5	83	4.00	0.13	700
C0603C-15N0	15	5, 2	250 MHz	35	15.4	64	16.8	89	4.00	0.17	645
C0603C-16N0	16	5, 2	250 MHz	35	16.2	55	17.3	52	3.10	0.17	645
C0603C-18N0	18	5, 2	250 MHz	35	18.7	70	21.4	69	3.10	0.17	645
C0603C-22N0	22	5, 2	250 MHz	35	22.8	73	26.1	71	3.00	0.19	610
C0603C-23N0	23	5, 2	250 MHz	35	24.1	71	28.0	67	2.85	0.19	610
C0603C-24N0	24	5, 2	250 MHz	35	24.5	45	28.7	39	2.65	0.19	610
C0603C-27N0	27	5, 2	250 MHz	37	29.2	74	34.6	65	2.80	0.22	565
C0603C-30N0	30	5, 2	250 MHz	37	31.4	47	39.9	28	2.25	0.22	565
C0603C-33N0	33	5, 2	250 MHz	37	36.0	67	49.5	42	2.30	0.22	565
C0603C-36N0	36	5, 2	250 MHz	37	39.4	47	52.7	24	2.08	0.25	540
C0603C-39N0	39	5, 2	250 MHz	38	42.7	60	60.2	40	2.20	0.24	540
C0603C-43N0	43	5, 2	250 MHz	38	47.0	44	64.9	21	2.00	0.28	500
C0603C-47N0	47	5, 2	200 MHz	38	52.2	62	77.2	35	2.00	0.28	500
C0603C-51N0	51	5, 2	200 MHz	35	55.5	69	82.2	34	1.90	0.30	475
C0603C-56N0	56	5, 2	200 MHz	38	62.5	56	97.0	26	1.90	0.31	475
C0603C-68N0	68	5, 2	200 MHz	37	80.5	54	168.0	21	1.70	0.36	440
C0603C-72N0	72	5, 2	150 MHz	34	82.0	53	135.0	20	1.70	0.49	400
C0603C-82N0	82	5, 2	150 MHz	34	96.2	54	177.0	21	1.70	0.54	360
C0603C-100N	100	5, 2	150 MHz	34	124.0	49	—	—	1.40	0.75	300
C0603C-110N	110	5, 2	150 MHz	32	138.0	43	—	—	1.30	0.61	300
C0603C-120N	120	5, 2	150 MHz	32	166.0	39	—	—	1.30	0.79	300
C0603C-150N	150	5, 2	150 MHz	28	250.0	25	—	—	1.00	1.14	245
C0603C-180N	180	5, 2	150 MHz	25	305.0	22	—	—	1.00	0.77	235
C0603C-200N	200	5, 2	150 MHz	25	—	—	—	—	0.90	1.98	200
C0603C-210N	210	5, 2	150 MHz	24	—	—	—	—	0.90	2.06	200
C0603C-220N	220	5, 2	150 MHz	23	—	—	—	—	0.70	1.70	200
C0603C-250N	250	5, 2	100 MHz	19	—	—	—	—	0.60	3.55	120
C0603C-270N	270	5, 2	100 MHz	21	—	—	—	—	0.60	2.10	195
C0603C-330N	330	5, 2	100 MHz	19	—	—	—	—	0.40	3.89	100
C0603C-390N	390	5, 2	100 MHz	19	—	—	—	—	0.30	4.35	100

*Testing data at 900 MHz and 1.7 GHz are product estimates

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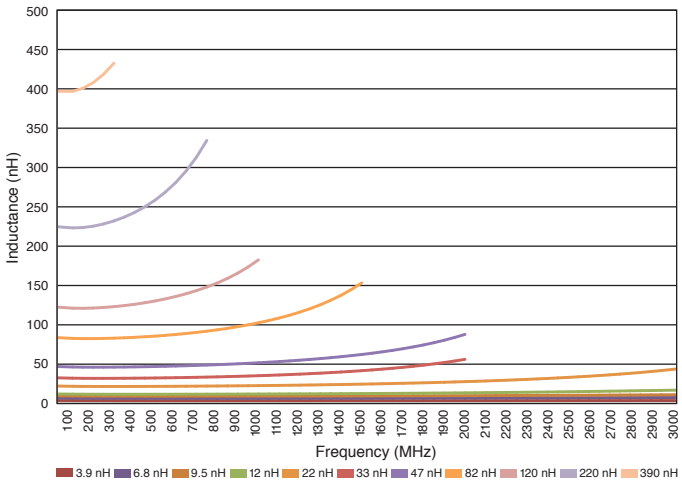
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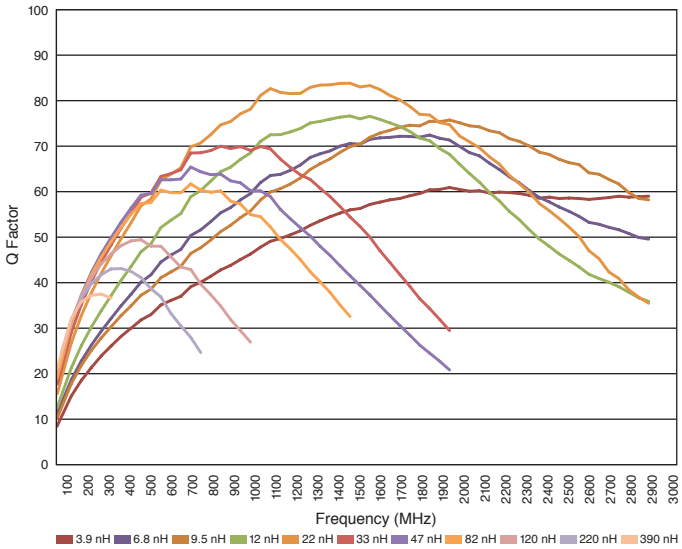
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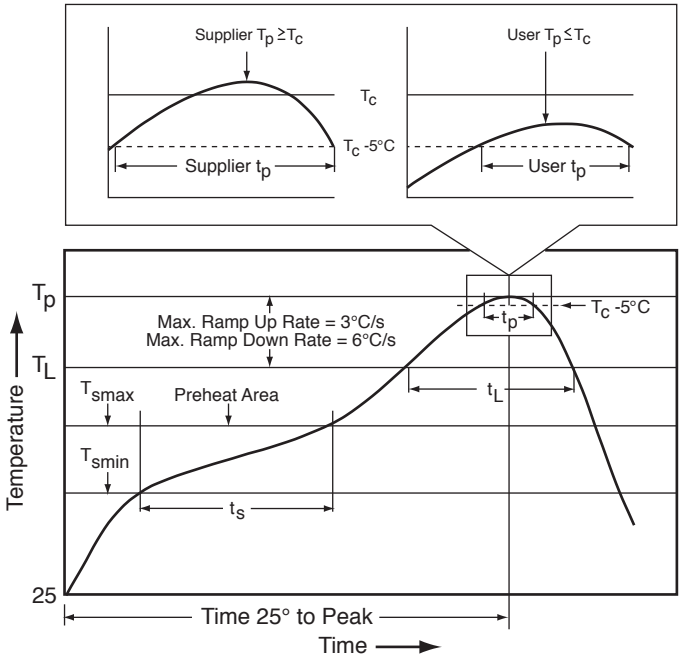
L Versus Frequency



Q Versus Frequency

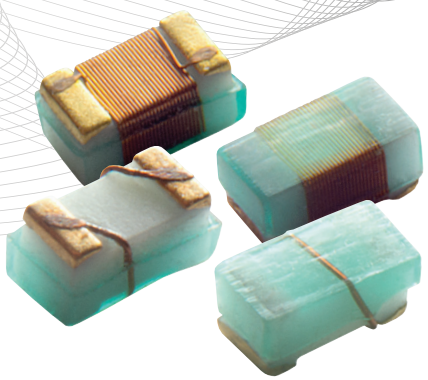


Solder Profile



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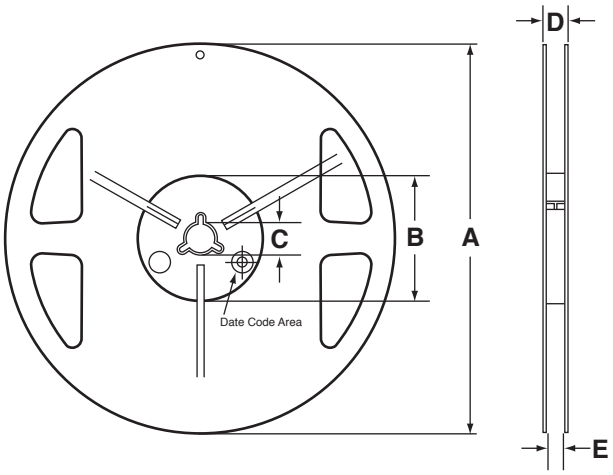
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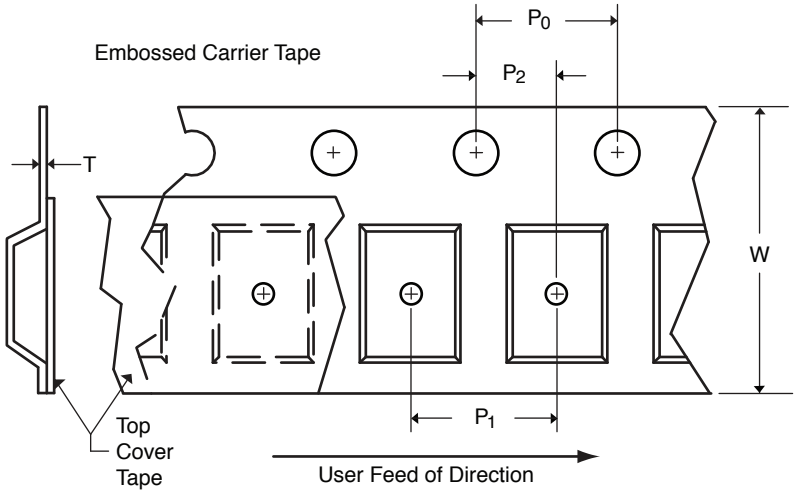


C0603 Series

Chip Inductors, Open Construction Commercial Applications

Tape and Reel Specifications





Parts	Reel Dimensions (mm)				
7" (178mm)	**A**	**B**	**C**	**D**	**E**
2000	180 ± 1	60 ± 1	13 ± 0.2	11.4 ± 1	9 + 1/-0

Tape Dimensions (mm)					
W	**P_1**	**P_0**	**P_2**	**H**	**T**
8.0	4.0	4.0	2.0	NA	0.25

Individual Reel Marking

Each individual reel will be marked with the Part Number, Delevan Cage Code, and Date/Lot Code.

Reel Marking Example:
C0603C-220NJ1T2
99800
1508A

How To Order

C0603	C	—	10N0	J	1	T
Inductor Series	**Substrate** C = Ceramic		**Inductance** Tolerance is 4 significant digits with N indicating a decimal point	**Tolerance** G = 2% J = 5%	**Termination Finish** 1 = Gold over Nickel (solderable/weldable)	**Packaging Option** T1 = Tape & Reel, 100 Min, 100 Mult T2 = Tape & Reel, 500 Min, 500 Mult T3 = Tape & Reel, 1000 Min, 1000 Mult T4 = Tape & Reel, 100 Min, 1 Mult

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11/22/2016