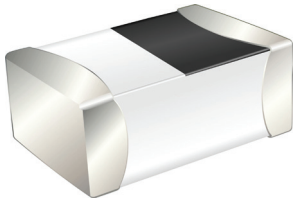




**THE DATASHEET OF  
LMCI1608-R10KT**





### FEATURES:

- Monolithic structure for high reliability
- High self-resonant frequency
- Excellent solderability and high heat resistance



### PART NUMBER STRUCTURE

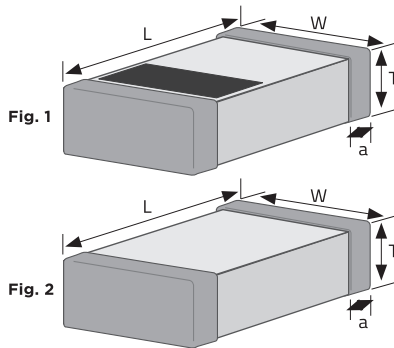
LMCI	1608	-	3N9	S	T
Series	Size		Inductance	Tolerance	Packaging
	0201		3N9 = 3.9nH	B = ±0.1nH	T = Tape & Reel
	1005		10N = 10nH	C = ±0.2nH	
	1608		R10 = 100nH	S = ±0.3nH	
			H = ±3%	J = ±5%	
			K = ±10%	M = ±20%	

**Example P/N:** LMC11608-3N9ST

Standard termination finish is 100% matte Tin (Sn) over Nickel.

### DIMENSIONS

Unit: mm (inches)



SIZE	FIGURE	L	W	T	a
0201 (in)	1	0.60±0.05 (0.024±0.002)	0.30±0.05 (0.012±0.002)	0.30±0.05 (0.012±0.002)	0.15±0.05 (0.006±0.002)
1005 (mm)	1	1.00±0.15 (0.039±0.006)	0.50±0.15 (0.020±0.006)	0.50±0.15 (0.020±0.006)	0.25±0.10 (0.010±0.004)
1608 (mm)	2	1.60±0.20 (0.063±0.008)	0.80 ± 0.15 (0.032±0.006)	0.80±0.15 (0.032±0.006)	0.30±0.20 (0.012±0.008)

### OPERATING / STORAGE TEMPERATURE RANGE

Operating Temperature Range	-55- +125° C
Temperature Coefficient of Inductance (TCL)	±250 ppm
Storage Temperature Range	-10 to +40° C

### ELECTRICAL SPECIFICATION & RANGE

#### 0201

INDUCTANCE (nH)	TOLERANCE	QUALITY FACTOR MIN.	TEST FREQUENCY (MHz)	TEST VOLTAGE (mV)	SRF (GHz) MIN.	RDC (Ω) MAX.	RATE CURRENT (mA) MAX.	PART NUMBER
0.6	±0.1nH, ±0.2nH, ±0.3nH	14	500	50	10000	0.05	1000	LMCI0201-0N6□T
0.7	±0.1nH, ±0.2nH, ±0.3nH	14	500	50	10000	0.05	1000	LMCI0201-0N7□T
0.8	±0.1nH, ±0.2nH, ±0.3nH	14	500	50	10000	0.06	1000	LMCI0201-0N8□T
0.9	±0.1nH, ±0.2nH, ±0.3nH	14	500	50	10000	0.06	800	LMCI0201-0N9□T
1.0	±0.1nH, ±0.2nH, ±0.3nH	14	500	50	10000	0.07	800	LMCI0201-1N0□T
1.1	±0.1nH, ±0.2nH, ±0.3nH	14	500	50	10000	0.07	800	LMCI0201-1N1□T
1.2	±0.1nH, ±0.2nH, ±0.3nH	14	500	50	10000	0.10	800	LMCI0201-1N2□T
1.3	±0.1nH, ±0.2nH, ±0.3nH	14	500	50	10000	0.10	700	LMCI0201-1N3□T
1.4	±0.1nH, ±0.2nH, ±0.3nH	14	500	50	10000	0.10	700	LMCI0201-1N4□T
1.5	±0.1nH, ±0.2nH, ±0.3nH	14	500	50	10000	0.10	650	LMCI0201-1N5□T
1.6	±0.1nH, ±0.2nH, ±0.3nH	14	500	50	10000	0.10	650	LMCI0201-1N6□T
1.7	±0.1nH, ±0.2nH, ±0.3nH	14	500	50	10000	0.10	650	LMCI0201-1N7□T
1.8	±0.1nH, ±0.2nH, ±0.3nH	14	500	50	9000	0.15	650	LMCI0201-1N8□T
2.0	±0.1nH, ±0.2nH, ±0.3nH	14	500	50	8500	0.15	650	LMCI0201-2N0□T
2.2	±0.1nH, ±0.2nH, ±0.3nH	14	500	50	7500	0.15	650	LMCI0201-2N2□T
2.4	±0.1nH, ±0.2nH, ±0.3nH	14	500	50	7500	0.15	550	LMCI0201-2N4□T
2.6	±0.1nH, ±0.2nH, ±0.3nH	14	500	50	7500	0.20	550	LMCI0201-2N6□T
2.7	±0.1nH, ±0.2nH, ±0.3nH	14	500	50	7500	0.20	550	LMCI0201-2N7□T
2.8	±0.1nH, ±0.2nH, ±0.3nH	14	500	50	7500	0.20	500	LMCI0201-2N8□T
3.0	±0.1nH, ±0.2nH, ±0.3nH	14	500	50	7500	0.20	450	LMCI0201-3N0□T
3.3	±0.1nH, ±0.2nH, ±0.3nH	14	500	50	7500	0.25	450	LMCI0201-3N3□T
3.6	±0.1nH, ±0.2nH, ±0.3nH	14	500	50	6500	0.25	400	LMCI0201-3N6□T
3.9	±0.1nH, ±0.2nH, ±0.3nH	14	500	50	6500	0.25	400	LMCI0201-3N9□T
4.3	±0.1nH, ±0.2nH, ±0.3nH	14	500	50	6000	0.35	350	LMCI0201-4N3□T
4.7	±0.1nH, ±0.2nH, ±0.3nH	14	500	50	6000	0.40	350	LMCI0201-4N7□T
5.1	±0.1nH, ±0.2nH, ±0.3nH	14	500	50	5500	0.40	350	LMCI0201-5N1□T
5.6	±0.1nH, ±0.2nH, ±0.3nH	14	500	50	5000	0.40	350	LMCI0201-5N6□T
6.2	±0.1nH, ±0.2nH, ±0.3nH	14	500	50	5000	0.40	300	LMCI0201-6N2□T
6.8	±3%, ±5%	14	500	50	4500	0.50	300	LMCI0201-6N8□T
7.5	±3%, ±5%	14	500	50	4000	0.50	300	LMCI0201-7N5□T
8.2	±3%, ±5%	14	500	50	4000	0.50	250	LMCI0201-8N2□T
9.1	±3%, ±5%	14	500	50	4000	0.70	250	LMCI0201-9N1□T
10	±3%, ±5%	14	500	50	4000	0.70	250	LMCI0201-10N□T
12	±3%, ±5%	13	500	50	3500	0.70	250	LMCI0201-12N□T
15	±3%, ±5%	13	500	50	3200	0.85	250	LMCI0201-15N□T
18	±3%, ±5%	13	500	50	3000	1.00	200	LMCI0201-18N□T
20	±3%, ±5%	13	500	50	2200	1.10	150	LMCI0201-20N□T
22	±3%, ±5%	13	500	50	2200	1.20	150	LMCI0201-22N□T
27	±3%, ±5%	13	500	50	2200	1.50	140	LMCI0201-27N□T
33	±3%, ±5%	12	300	50	1800	1.80	120	LMCI0201-33N□T
36	±3%, ±5%	12	300	50	1700	2.00	120	LMCI0201-36N□T
39	±3%, ±5%	12	300	50	1600	2.00	120	LMCI0201-39N□T
43	±3%, ±5%	12	300	50	1600	2.20	100	LMCI0201-43N□T
47	±3%, ±5%	12	300	50	1500	2.20	100	LMCI0201-47N□T
56	±3%, ±5%	12	300	50	1200	2.50	100	LMCI0201-56N□T
68	±3%, ±5%	12	300	50	1000	3.20	100	LMCI0201-68N□T
75	±3%, ±5%	11	300	50	1000	3.60	100	LMCI0201-75N□T
82	±3%, ±5%	11	300	50	1000	3.80	100	LMCI0201-82N□T
91	±3%, ±5%	11	300	50	900	3.80	80	LMCI0201-91N□T
100	±3%, ±5%	11	300	50	800	4.00	80	LMCI0201-R10□T
120	±3%, ±5%	10	300	50	800	5.00	80	LMCI0201-R12□T

\*Operating temperature range: -55-+125°C

### ELECTRICAL SPECIFICATION & RANGE

#### 1005

INDUCTANCE (nH)	TOLERANCE	QUALITY FACTOR MIN.	TEST FREQUENCY (MHz)	TEST VOLTAGE (mV)	SRF (GHz) MIN.	RDC (Ω) MAX.	RATE CURRENT (mA) MAX.	PART NUMBER
1.0	±0.1nH, ±0.2nH, ±0.3nH	8	100	50	10.00	0.06	1000	LMCI1005-1N0□T
1.1	±0.1nH, ±0.2nH, ±0.3nH	8	100	50	10.00	0.07	1000	LMCI1005-1N1□T
1.2	±0.1nH, ±0.2nH, ±0.3nH	8	100	50	10.00	0.07	1000	LMCI1005-1N2□T
1.3	±0.1nH, ±0.2nH, ±0.3nH	8	100	50	10.00	0.07	1000	LMCI1005-1N3□T
1.5	±0.1nH, ±0.2nH, ±0.3nH	8	100	50	6.00	0.08	1000	LMCI1005-1N5□T
1.6	±0.1nH, ±0.2nH, ±0.3nH	8	100	50	6.00	0.08	1000	LMCI1005-1N6□T
1.8	±0.1nH, ±0.2nH, ±0.3nH	8	100	50	6.00	0.08	900	LMCI1005-1N8□T
2.0	±0.1nH, ±0.2nH, ±0.3nH	8	100	50	6.00	0.09	900	LMCI1005-2N0□T
2.2	±0.1nH, ±0.2nH, ±0.3nH	8	100	50	6.00	0.09	900	LMCI1005-2N2□T
2.4	±0.1nH, ±0.2nH, ±0.3nH	8	100	50	6.00	0.10	800	LMCI1005-2N4□T
2.7	±0.1nH, ±0.2nH, ±0.3nH	8	100	50	6.00	0.12	800	LMCI1005-2N7□T
3.0	±0.1nH, ±0.2nH, ±0.3nH	8	100	50	6.00	0.12	800	LMCI1005-3N0□T
3.3	±0.1nH, ±0.2nH, ±0.3nH	8	100	50	6.00	0.13	800	LMCI1005-3N3□T
3.6	±0.1nH, ±0.2nH, ±0.3nH	8	100	50	4.00	0.15	700	LMCI1005-3N6□T
3.9	±0.1nH, ±0.2nH, ±0.3nH	8	100	50	4.00	0.16	700	LMCI1005-3N9□T
4.3	±0.1nH, ±0.2nH, ±0.3nH	8	100	50	4.00	0.16	700	LMCI1005-4N3□T
4.7	±0.1nH, ±0.2nH, ±0.3nH	8	100	50	4.00	0.16	700	LMCI1005-4N7□T
5.1	±0.1nH, ±0.2nH, ±0.3nH	8	100	50	4.00	0.16	600	LMCI1005-5N1□T
5.6	±0.1nH, ±0.2nH, ±0.3nH	8	100	50	4.00	0.20	600	LMCI1005-5N6□T
6.2	±0.1nH, ±0.2nH, ±0.3nH	8	100	50	3.90	0.20	600	LMCI1005-6N2□T
6.8	±3%, ±5%	8	100	50	3.90	0.20	600	LMCI1005-6N8□T
7.5	±3%, ±5%	8	100	50	3.70	0.24	500	LMCI1005-7N5□T
8.2	±3%, ±5%	8	100	50	3.60	0.24	500	LMCI1005-8N2□T
9.1	±3%, ±5%	8	100	50	3.40	0.26	500	LMCI1005-9N1□T
10	±3%, ±5%	8	100	50	3.20	0.26	500	LMCI1005-10N□T
12	±3%, ±5%	8	100	50	2.70	0.50	400	LMCI1005-12N□T
15	±3%, ±5%	8	100	50	2.30	0.50	400	LMCI1005-15N□T
18	±3%, ±5%	8	100	50	2.10	0.60	350	LMCI1005-18N□T
20	±3%, ±5%	8	100	50	2.00	0.60	350	LMCI1005-20N□T
22	±3%, ±5%	8	100	50	1.90	0.60	350	LMCI1005-22N□T
27	±3%, ±5%	8	100	50	1.60	0.70	300	LMCI1005-27N□T
33	±3%, ±5%	8	100	50	1.30	0.80	300	LMCI1005-33N□T
39	±3%, ±5%	8	100	50	1.20	1.00	250	LMCI1005-39N□T
43	±3%, ±5%	8	100	50	1.10	1.10	250	LMCI1005-43N□T
47	±3%, ±5%	8	100	50	1.00	1.10	250	LMCI1005-47N□T
56	±3%, ±5%	8	100	50	0.75	1.20	200	LMCI1005-56N□T
68	±3%, ±5%	8	100	50	0.75	1.40	200	LMCI1005-68N□T
82	±3%, ±5%	8	100	50	0.75	1.60	200	LMCI1005-82N□T
100	±3%, ±5%	8	100	50	0.70	2.00	200	LMCI1005-R10□T
120	±3%, ±5%	8	100	50	0.60	2.50	150	LMCI1005-R12□T
150	±3%, ±5%	8	100	50	0.55	3.00	150	LMCI1005-R15□T
180	±3%, ±5%	8	100	50	0.50	3.50	150	LMCI1005-R18□T
220	±3%, ±5%	8	100	50	0.45	3.70	100	LMCI1005-R22□T
270	±3%, ±5%	8	100	50	0.40	4.50	100	LMCI1005-R27□T
330	±3%, ±5%	6	50	50	0.35	5.00	80	LMCI1005-R33□T
360	±3%, ±5%	6	50	50	0.30	6.00	80	LMCI1005-R36□T

\*Operating temperature range: -55-+125°C

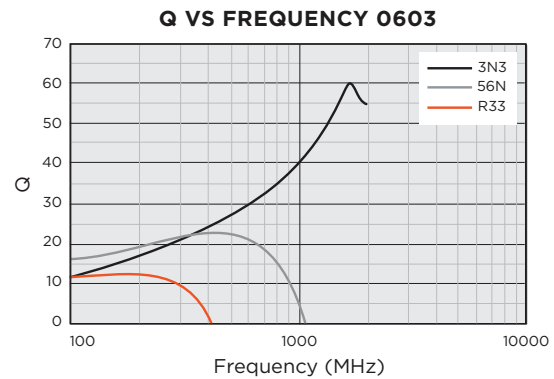
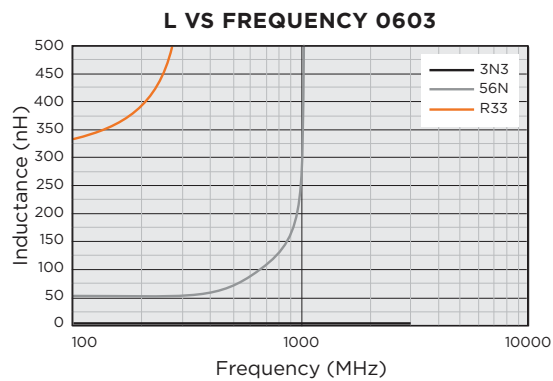
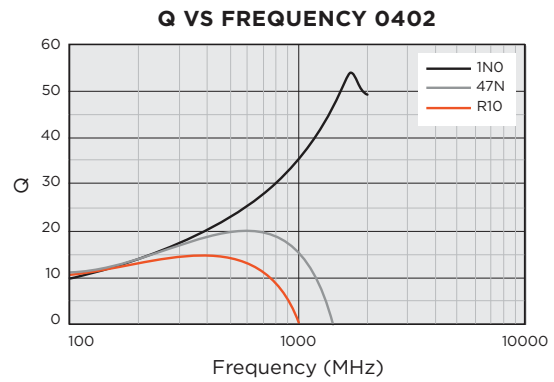
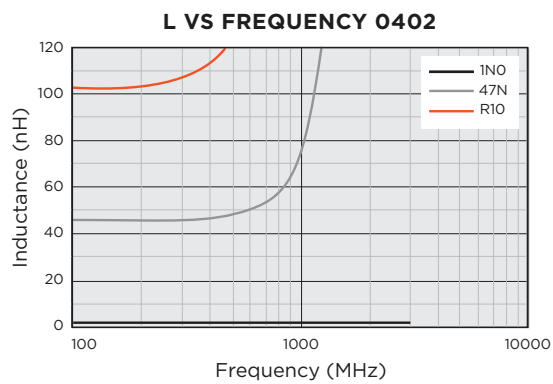
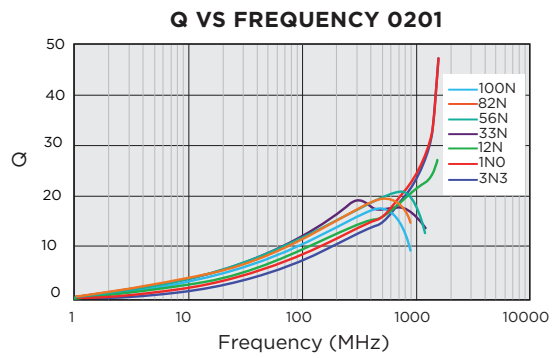
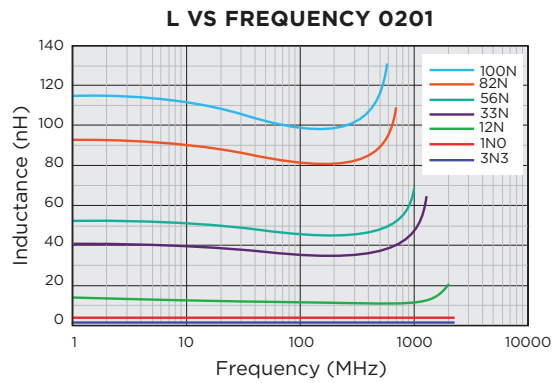
### ELECTRICAL SPECIFICATION & RANGE

#### 1608

INDUCTANCE (nH)	TOLERANCE	QUALITY FACTOR MIN.	TEST FREQUENCY (MHz)	TEST VOLTAGE (mV)	SRF (GHz) MIN.	RDC (Ω) MAX.	RATE CURRENT (mA) MAX.	PART NUMBER
1.0	±0.3nH	8	100	50	10.00	0.05	500	LMCI1608-1N0ST
1.2	±0.3nH	8	100	50	10.00	0.05	500	LMCI1608-1N2ST
1.5	±0.3nH	8	100	50	6.00	0.10	500	LMCI1608-1N5ST
1.8	±0.3nH	8	100	50	6.00	0.10	500	LMCI1608-1N8ST
2.0	±0.3nH	8	100	50	6.00	0.10	500	LMCI1608-2N0ST
2.2	±0.3nH	8	100	50	6.00	0.10	500	LMCI1608-2N2ST
2.4	±0.3nH	8	100	50	6.00	0.12	500	LMCI1608-2N4ST
2.7	±0.3nH	10	100	50	6.00	0.12	500	LMCI1608-2N7ST
3.3	±0.3nH	10	100	50	6.00	0.15	500	LMCI1608-3N3ST
3.6	±0.3nH	10	100	50	6.00	0.16	500	LMCI1608-3N6ST
3.9	±0.3nH	10	100	50	6.00	0.16	500	LMCI1608-3N9ST
4.3	±0.3nH	10	100	50	6.00	0.18	500	LMCI1608-4N3ST
4.7	±0.3nH	10	100	50	6.00	0.20	500	LMCI1608-4N7ST
5.1	±0.3nH	10	100	50	5.50	0.25	500	LMCI1608-5N1ST
5.6	±0.3nH	10	100	50	5.00	0.25	500	LMCI1608-5N6ST
6.8	±5%, ±10%	10	100	50	5.00	0.30	500	LMCI1608-6N8□T
7.5	±5%, ±10%	10	100	50	4.50	0.35	500	LMCI1608-7N5□T
8.2	±5%, ±10%	10	100	50	4.50	0.35	500	LMCI1608-8N2□T
9.1	±5%, ±10%	10	100	50	3.50	0.40	500	LMCI1608-9N1□T
10	±5%, ±10%	12	100	50	3.50	0.40	300	LMCI1608-10N□T
12	±5%, ±10%	12	100	50	3.00	0.45	300	LMCI1608-12N□T
15	±5%, ±10%	12	100	50	2.30	0.50	300	LMCI1608-15N□T
18	±5%, ±10%	12	100	50	2.20	0.55	300	LMCI1608-18N□T
22	±5%, ±10%	12	100	50	2.00	0.60	300	LMCI1608-22N□T
24	±5%, ±10%	12	100	50	2.00	0.60	300	LMCI1608-24N□T
27	±5%, ±10%	12	100	50	1.70	0.65	300	LMCI1608-27N□T
33	±5%, ±10%	12	100	50	1.50	0.70	300	LMCI1608-33N□T
36	±5%, ±10%	12	100	50	1.40	0.70	300	LMCI1608-36N□T
39	±5%, ±10%	12	100	50	1.40	0.70	300	LMCI1608-39N□T
47	±5%, ±10%	12	100	50	1.20	0.70	300	LMCI1608-47N□T
56	±5%, ±10%	12	100	50	1.10	0.75	300	LMCI1608-56N□T
68	±5%, ±10%	12	100	50	0.90	0.85	300	LMCI1608-68N□T
82	±5%, ±10%	8	100	50	0.80	1.00	300	LMCI1608-82N□T
100	±5%, ±10%	8	100	50	0.70	1.20	300	LMCI1608-R10□T
120	±5%, ±10%	8	50	50	0.60	1.40	200	LMCI1608-R12□T
150	±5%, ±10%	8	50	50	0.50	1.60	200	LMCI1608-R15□T
180	±5%, ±10%	8	50	50	0.40	1.90	200	LMCI1608-R18□T
220	±5%, ±10%	8	50	50	0.35	2.40	200	LMCI1608-R22□T
270	±5%, ±10%	8	50	50	0.35	2.60	150	LMCI1608-R27□T
330	±5%, ±10%	8	50	50	0.35	2.80	150	LMCI1608-R33□T
390	±5%, ±10%	8	50	50	0.30	3.20	150	LMCI1608-R39□T
430	±5%, ±10%	8	50	50	0.28	3.40	150	LMCI1608-R43□T
470	±5%, ±10%	8	50	50	0.25	3.60	150	LMCI1608-R47□T
560	±3%, ±5%, ±10%	8	50	-	0.25	4.00	100	LMCI1608-R56□T
680	±3%, ±5%, ±10%	8	50	-	0.25	4.50	100	LMCI1608-R68□T

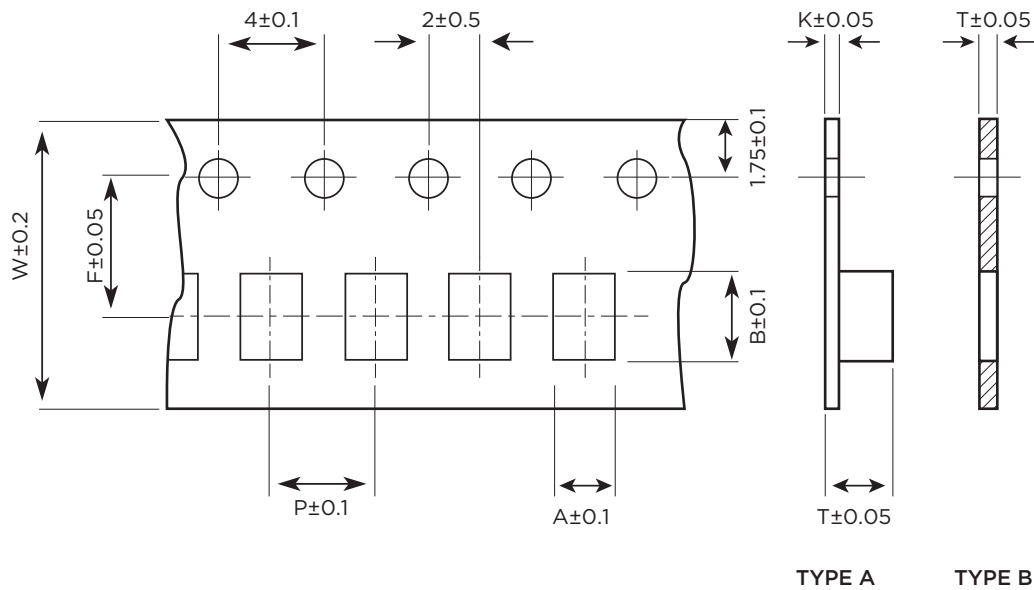
\*Operating temperature range: -55-+125°C

### ELECTRICAL SPECIFICATION & RANGE



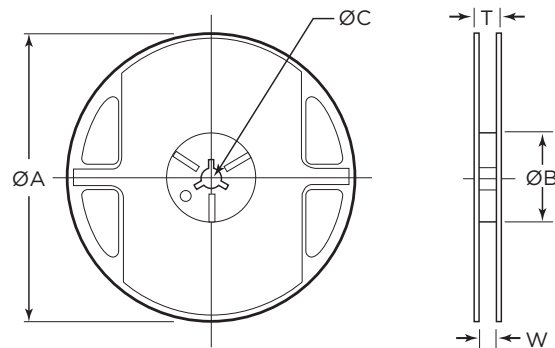
### TAPE & REEL SPECIFICATIONS

#### CARRIER TAPE



TYPE	A	B	T	W	P	F	K	Tape
0201	0.40	0.70	0.50	8	2	3.50	-	B
0402	0.65	1.15	0.60	8	2	3.50	-	B
0603	1.10	1.80	1.10	8	4	3.50	-	B

#### REEL



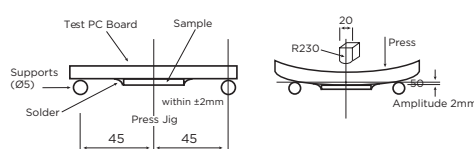
TYPE	A	B	C	W	T	QUANTITY (EA)
0201	178±1.0	60.0±0.5	13.0±0.20	9.00±0.50	12.0±0.15	15,000
0402	178±2.0	57.0±2.0	12.5±1.50	8.00+1.5/-0	12.0±0.15	10,000
0603	178±1.0	60.0±0.5	13.0±0.20	9.00±0.50	12.0±0.15	4,000

**ENVIRONMENTAL CHARACTERISTICS**

**ELECTRICAL PERFORMANCE TEST**

TEST	REQUIREMENT	TEST METHOD
Inductance	Within specified tolerance	Temperature: 20±1°C Relative Humidity: 45 to 85%RH Atmospheric Pressure: 86 to 106kpa Measuring equipment and fixture: O201: E991A+HP16197A O402/O603: E991A+HP16192A Test Signal: -20dBm or 50mV Test compensation(for O201 high Q): Product true value= test value + compensation value. for L<3.6nH, compensation value is 0.25nH; for 3.6nH≤L<6.8nH, compensation value is 0.43nH; for 6.8nH≤L<9.1nH, compensation value is 0.5nH; for 9.1nH≤L<33nH, compensation value is 0.85nH; for L≥33nH, compensation value is 0.85nH;
Q Value	In accordance with electrical specification	Temperature: 20±1°C Relative Humidity: 45 to 85%RH Atmospheric Pressure: 86 to 106kpa
DC Resistance	In accordance with electrical specification	Temperature: 20±1°C Relative Humidity: 45 to 85%RH Atmospheric Pressure: 86 to 106kpa Measuring equipment: HP 4338

**MECHANICAL PERFORMANCE TEST**

TEST	REQUIREMENT	TEST METHOD
Bending Strength	No mechanical damage shall be observed	<p><b>MOUNTING SAMPLES</b> units: mm</p>  <p>Flexure: 2mm Pressurizing speed: 0.5mm/sec Keep time: 30sec</p>
Solderability	No visible mechanical damage Wetting shall exceed 75% coverage for O201 series; exceed 95% coverage for others. Inductance change: within±10% Q change: within±20%	Solder temperature: 240±2°C Time: 3 seconds Solder: Sn/3.0Ag/0.5Cu Flux: 25% resin and 75% ethanol in weight
Resistance to Soldering Heat	No visible mechanical damage Wetting shall exceed 75% coverage for O201 series; exceed 95% coverage for others Inductance change: within±10% Q change: within±20%	Solder temperature: 260±3°C Time: 5 seconds Solder: Sn/3.0Ag/0.5Cu Flux: 25% resin and 75% ethanol in weight The chip shall be stabilized at normal condition for 1-2 hours before measuring
Dropping	No visible mechanical damage Inductance change: within±10% Q change: within±20%	Drop chip inductor 10 times on a concrete floor from a height of 100cm

**ENVIRONMENTAL CHARACTERISTICS**

**CLIMATIC TEST**

TEST	REQUIREMENT	TEST METHOD
Thermal Shock	No visible damage Inductance variation within 10% Q variation within 20%	O201/0402 series: -55°C for 30±3 min±125°C for 30±3 min O603 series: -40°C for 30±3 min±85°C for 30±3 min Transforming interval: max. 20 seconds Test cycle: 100 cycles The chip shall be stabilized at normal condition for 1-2 hours before measuring
Resistance to Low Temperature		Temperature: O201/0402 series: -55±2°C ; O603 series: -40±2°C Time: 1000±24 hours The chip shall be stabilized at normal condition for 1-2 hours before measuring
Resistance to High Temperature		Temperature: O201/0402 series: 125±2°C ; O603 series: 85±2°C Time: 1000±24 hours The chip shall be stabilized at normal condition for 1-2 hours before measuring
Damp Heat (Steady States)		Temperature: 60±2°C Humidity: 90-95% RH. Time: 1000±24 hours The chip shall be stabilized at normal condition for 1-2 hours before measuring
Loading Under Damp Heat		Temperature: 60±2°C Humidity: 90-95% RH. Time: 1000±24 hours Applied current: Rated current The chip shall be stabilized at normal condition for 1-2 hours before measuring
Loading at High Temperature (Life Test)		Temperature: O201/0402 series: 125±2°C; O603 series: 85±2°C Time: 1000±24 hours Applied current: Rated current The chip shall be stabilized at normal condition for 1-2 hours before measuring

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