



## WCI1005CP Series

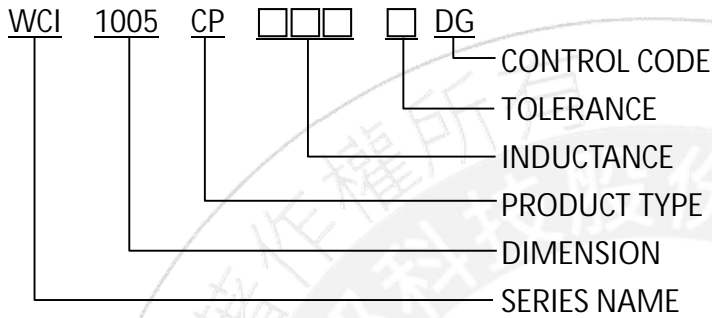
# Data Sheet

<b>Product Name</b>	<b>Chip Inductor</b>
<b>Series</b>	<b>WCI1005CP Series</b>
<b>Size</b>	<b>EIAJ 1005</b>
<b>Version</b>	<b>A0</b>

1. SCOPE

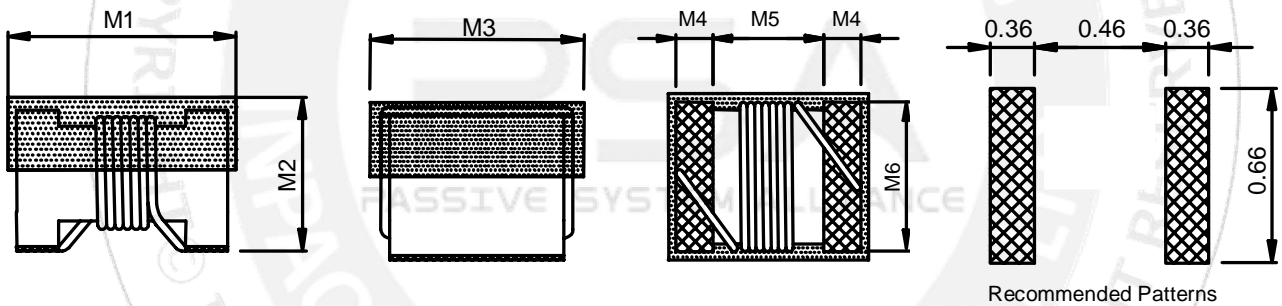
- 1.1. Ceramic core wire wound construction.
- 1.2. Component miniaturization is more suitable for SMT layout use.
- 1.3. Inductance values from 1.0 to 120 nH.
- 1.4. The Q value is better than multilayer technology.

2. PART NUMBER IDENTIFICATION



3. MECHANICAL DIMENSION

UNIT: mm

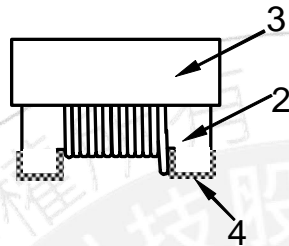
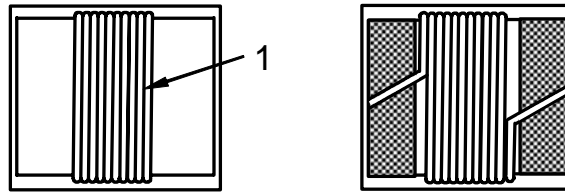


Series	M1	M2	M3	M4	M5	M6
WCI1005CP	1.19 MAX.	0.66 MAX.	0.64 MAX.	0.23±0.1	0.56±0.1	0.50±0.1

4. RATING TEMPERATURE

- OPERATING TEMPERATURE RANGE: -25°C TO +125°C.
- STORAGE TEMPERATURE RANGE: COMPONENT: -25°C TO +85°C.
- TEMPERATURE RISE : Below 15°C at Rated Current.

5. STRUCTURE



6. MATERIAL LIST

ITEM	MATERIAL CATEGORY	MATERIAL TYPE
1	WIRE	POLYSOL
2	CORE	CERAMIC
3	EPOXY	UV TYPE
4.	TERMINAL	Ag+Ni+Sn

7. TEST INSTRUMENT

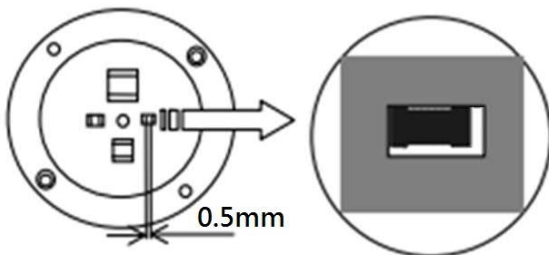
7-1 Inductance、Q : TESTED BY AGILENT E4991B or equivalent

7-2 SRF : TESTED BY AGILENT 5071C or equivalent

7-3 DC Resistance : TESTED BY CHROMA 16502 or equivalent

7-4 Test Method :

Position coil under test as shown in below and contact coil with each terminal by adding weight.



8. ELECTRICAL SPECIFICATION

Part number	Inductance (nH) @250MHz	Inductance Tolerance	Q MIN.	Inductance (TYP.)	Q (TYP.)	Inductance (TYP.)	Q (TYP.)	SRF (GHz) MIN.	DC Resistance (Ω) MAX.	I <sub>rms</sub> (mA)
				@900MHz		@1700MHz				
WCI1005CP2N2GDG	2.2	±2%	19	2.19	55	2.23	82	10.80	0.070	960
WCI1005CP3N3GDG	3.3	±2%	19	3.10	65	3.12	80	7.00	0.066	840
WCI1005CP5N6GDG	5.6	±2%	20	5.20	48	5.28	75	4.80	0.083	760
WCI1005CP6N8GDG	6.8	±2%	20	6.73	65	6.95	70	4.80	0.083	680
WCI1005CP7N5GDG	7.5	±2%	22	7.91	60	8.22	85	4.80	0.100	680
WCI1005CP9N1GDG	9.1	±2%	22	9.27	63	8.61	73	4.16	0.100	680
WCI1005CP12NGDG	12	±2%	24	12.71	62	12.87	77	3.60	0.120	640
WCI1005CP18NGDG	18	±2%	25	17.39	52	22.18	64	3.10	0.230	420
WCI1005CP19NGDG	19	±2%	24	19.51	60	21.85	72	3.04	0.200	480
WCI1005CP20NGDG	20	±2%	25	20.7	52	23.66	53	3.00	0.250	420

NOTE:

1. MSL: Level 1



## 9. RELIABILITY PERFORMANCE

### Reliability Experiment For Electrical

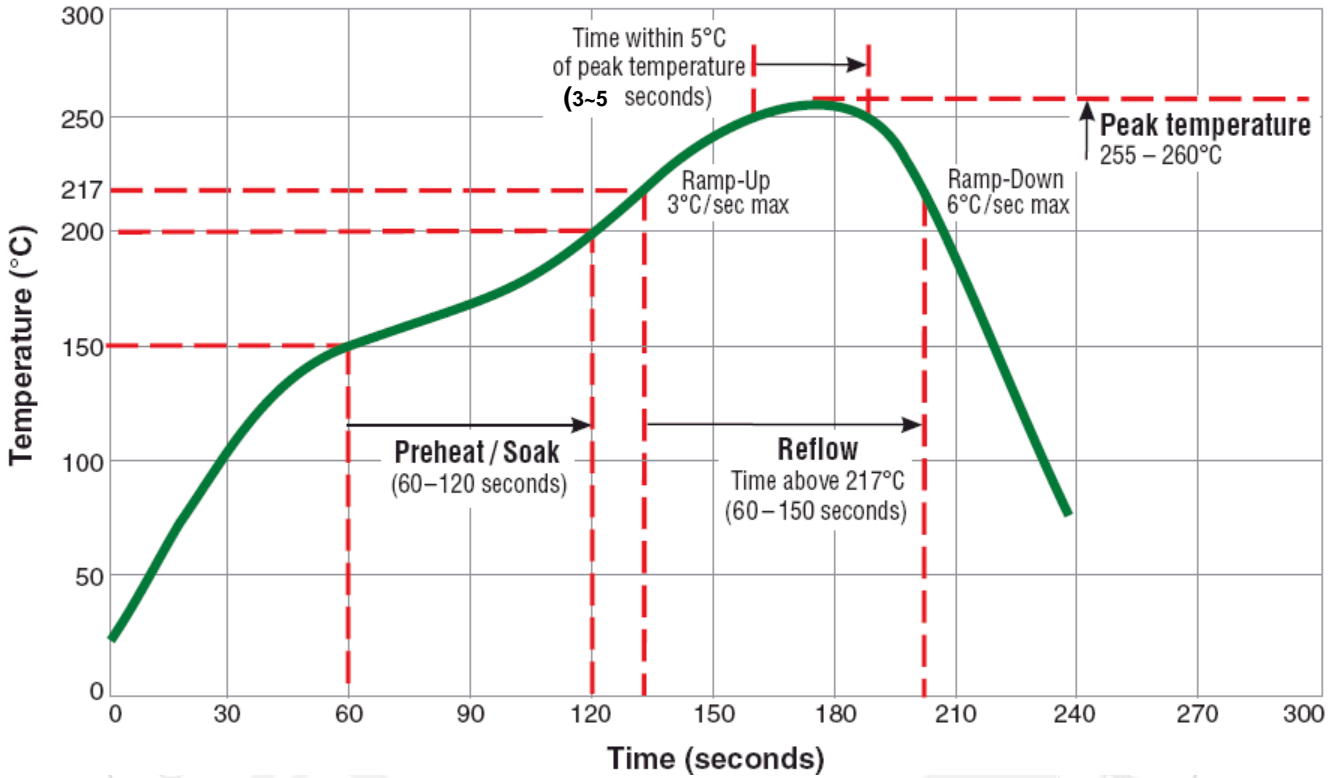
Test Item	Accept criteria	Test Condition	Standard Source
Humidity Test	1.Change from an initial value L:within±5% 2.no visible damage.	+40°C ± 2°C, humidity of 90% ±5% (total 96 hours).	MIL-STD-202H Method 103 Test Condition B
High Temperature Test	1.Change from an initial value L:within±5% 2.no visible damage.	1.Temperature: +125°C±2°C. 2.Test time: 72±2hrs.	IEC 68-2 Test Condition B
Low Temperature Test	1.Change from an initial value L:within±5% 2.no visible damage.	1.Temperature: -25°C±2°C. 2.Test time: 72±2hrs.	IEC 68-2 Test Condition A
Thermal Shock	1.Change from an initial value L:within±5% 2.no visible damage.	+125°C±5°C (30 minutes) ~ -65±5°C (30 minutes), temperature switch time: 5 minutes (total 50 cycles).	Reference MIL-STD-202H Method 107 Test Condition B-2
Life Test	1.Change from an initial value L:within±5% 2.no visible damage.	+70°C±5°C (250Hours).	Reference MIL-STD-202H Method 108 Test Condition B

### Reliability Experiment For Physical

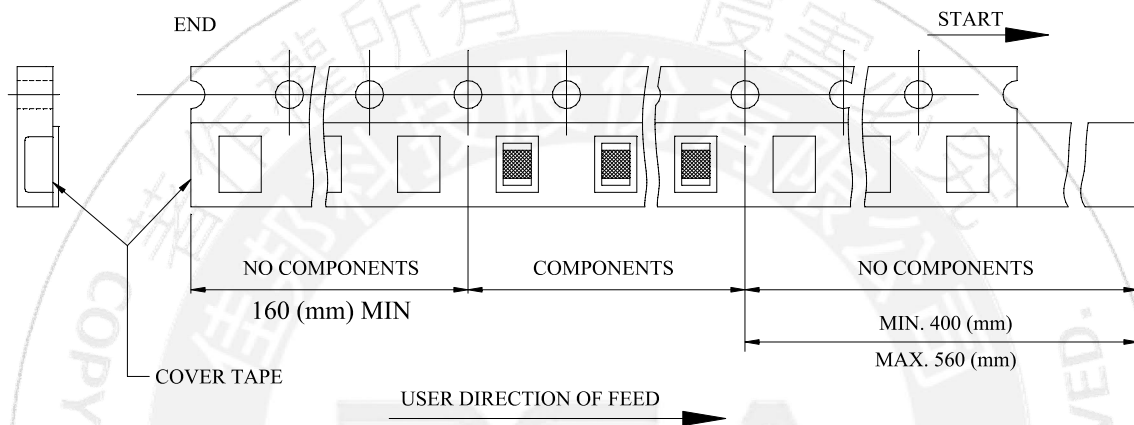
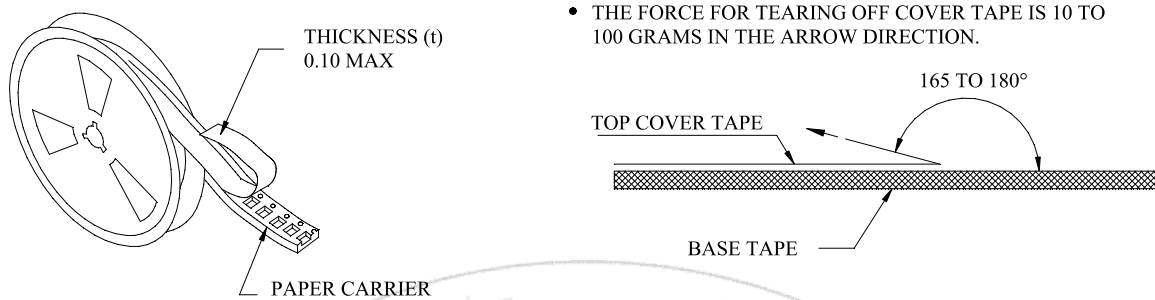
Test Item	Accept criteria	Test Condition	Standard Source
Vibration Test	1.Change from an initial value L:within±5% 2.no visible damage.	10-55-10HZ, amplitude: 1.5mm, direction: X, Y, Z axes, each axis 2 hours (total 6 hours).	MIL-STD-202H Method 201
Solder Heat Resistance Test	1.no visible damage.	IR/convection reflow: Peak Temp 250±5°C for 30±5Sec. in air, Through 3 Cycle. Temperature Ramp:+1-4°C/sec.; Above 183°C, must keep 90 s - 120 s.	Reference MIL-STD-202H Method 210 Test Condition K (Reflow)
Solder Ability Test	1. Lead must have 95% above coverage.	Solder temp: 245±5°C, Immersion time: 5 second. Immersion rate: 25±6mm/sec.	J-STD-002D Test condition B1

10. REFLOW CHART

Typical RoHS Reflow Profile



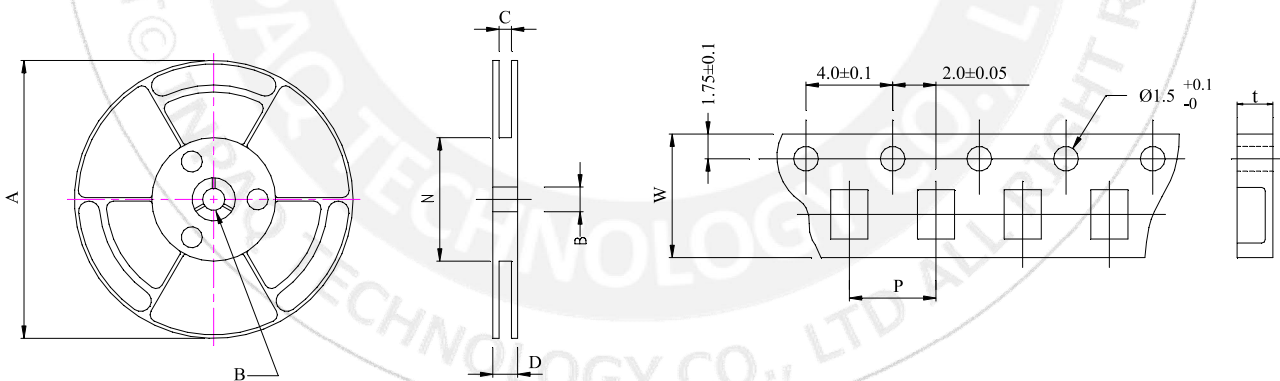
11. PACKING



■ CARRIER TAPE REELS (mm)

MATERIAL: PAPER

■ DIMENSIONS OF CARRIER TAPE (mm)



UNIT: mm

	A	B	C	D	N	P	W	t
DIM.	178	13.0	8.4	14.4	50	2.0	8.0	0.68
TOL.	MAX.	+0.5-0.2	+2.0-0	MAX	MIN.	±0.1	±0.2	±0.03

Quantity : 4,000 Pcs/Reel