



## WCI2520CP Series

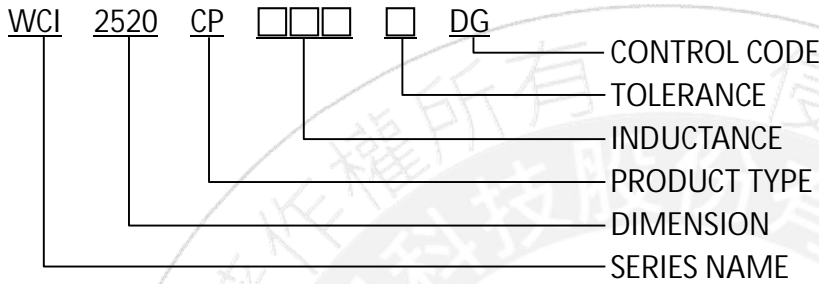
# Data Sheet

<b>Product Name</b>	<b>Chip Inductor</b>
<b>Series</b>	<b>WCI2520CP Series</b>
<b>Size</b>	<b>EIAJ 2520</b>
<b>Version</b>	<b>A0</b>

1. SCOPE

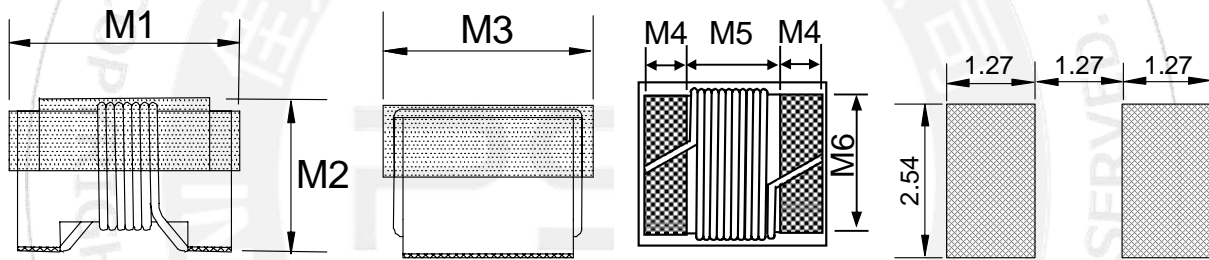
- 1.1. Ceramic core wire wound construction.
- 1.2. Wide range of inductance can be selected
- 1.3. Inductance values from 5.6 to 15000 nH.
- 1.4. Exceptional Q and high SRF special for high frequency applications.

2. PART NUMBER IDENTIFICATION



3. MECHANICAL DIMENSION

UNIT:mm



Recommended Patterns

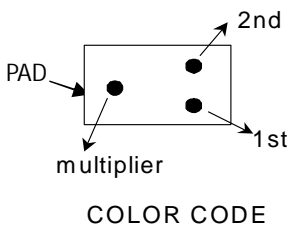
Series	M1	M2		M3	M4	M5	M6
WCI2520CP	2.92 MAX.	5N6~R91	2.02 MAX.	2.79 MAX.	0.50±0.1	1.43±0.1	2.00±0.1
		1R0~150	2.10 MAX.				

4. RATING TEMPERATURE

OPERATING TEMPERATURE RANGE : -25°C TO +125°C.

STORAGE TEMPERATURE RANGE: COMPONENT: -25°C TO +85°C.

5. MARKING



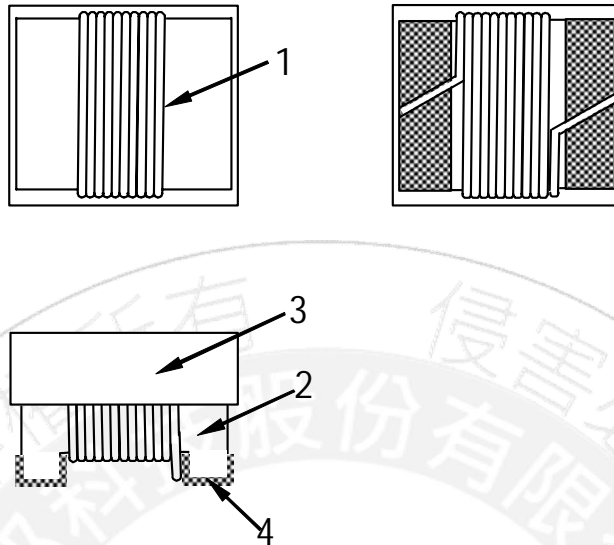
Marking Direction: PAD on the left and right sides, color code 1st and 2nd on the right, color code 3 multiplier on the left.

Example: WCI2520CP47NJDG

MARKING: Dots 1st and 2nd indicate the inductance in nano Henries.  
(DOTS 1st: YELLOW , DOTS 2nd:VIOLET)  
Dots 3 indicates number of zeroes to be added.  
(DOTS 3multiplier: BLACK)

MARK COLOR CODE IN COMPOSITE ELECTRICAL SPECIFICATION.

## 6. STRUCTURE



## 7. MATERIAL LIST

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

## 8. TEST INSTRUMENT

8-1 Inductance、Q : TEST BY KEYSIGHT 4991B or equivalent.

8-2 SRF : TEST BY KEYSIGHT 5071C or equivalent.

8-3 DC Resistance : TEST BY CHROMA 16502 or equivalent.

9. ELECTRICAL SPECIFICATION

Part number	Inductance (nH)	Test Frequency (MHz)	Inductance Tolerance	Q MIN.	Test Frequency (MHz)	SRF (MHz) MIN.	DC Resistance (Ω) MAX.	I <sub>rms</sub> (mA)	COLOR CODE		
									1st	2nd	multiplier
WCI2520CP47NJDG	47	50	±5%	65	350	1500	0.16	1000	Yellow	Violet	Black
WCI2520CP56NGDG	56	50	±2%	65	350	1300	0.18	1000	Green	Blue	Black
WCI2520CP68NGDG	68	50	±2%	65	350	1300	0.20	1000	Blue	Gray	Black
WCI2520CP82NGDG	82	50	±2%	60	350	1000	0.22	1000	Gray	Red	Black
WCI2520CPR10GDG	100	25	±2%	60	350	1000	0.56	650	Brown	Black	Brown
WCI2520CPR15GDG	150	25	±2%	45	100	850	0.70	580	Brown	Green	Brown
WCI2520CPR18GDG	180	25	±2%	45	100	750	0.77	620	Brown	Gray	Brown
WCI2520CPR22JDG	220	25	±5%	45	100	700	0.84	500	Red	Red	Brown
WCI2520CPR33GDG	330	25	±2%	45	100	570	1.05	450	Orange	Orange	Brown
WCI2520CPR47GDG	470	25	±2%	45	100	450	1.19	470	Yellow	Violet	Brown

NOTE:

- 1. MSL: Level 1



## 10. RELIABILITY PERFORMANCE

### Reliability Experiment For Electrical

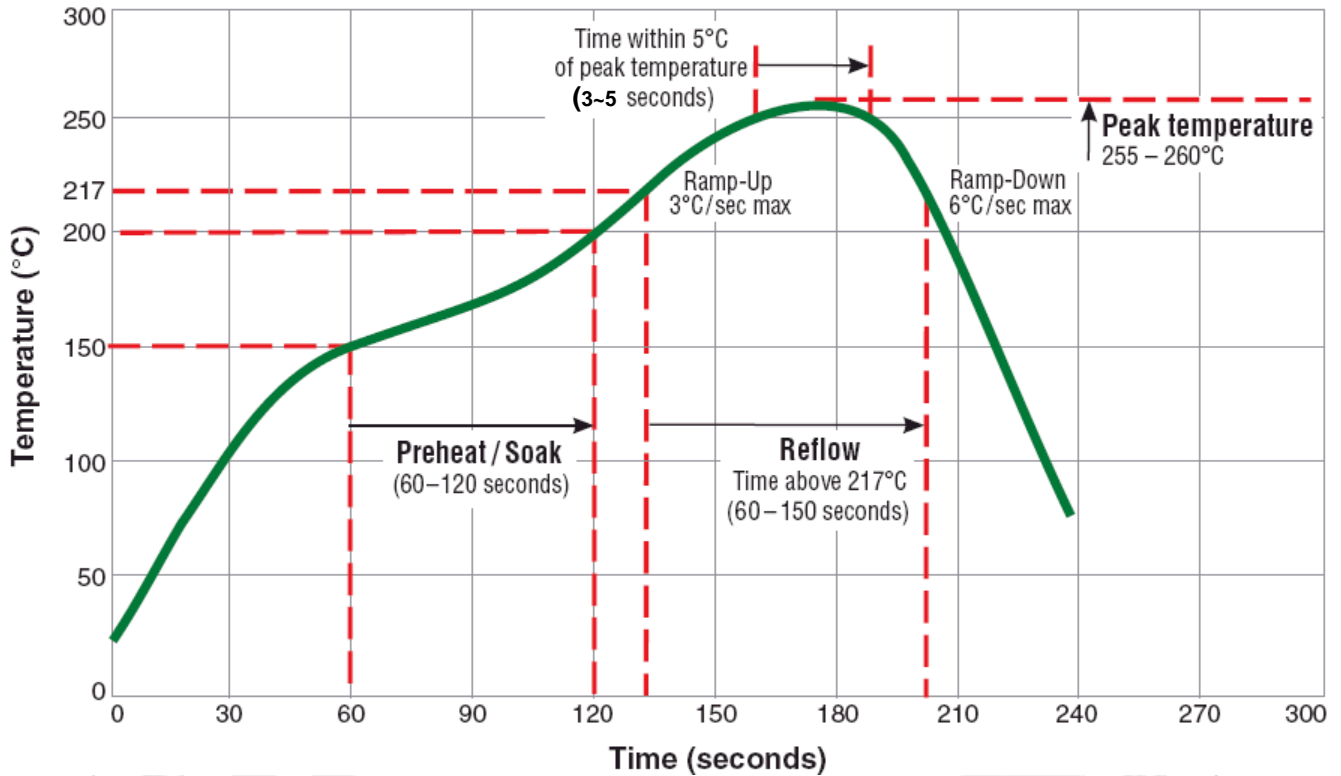
Test Item	Accept criteria	Test Condition	Standard Source
Humidity Test	1.Change from an initial value L:within±5% 2.no visible damage.	+40°C± 2°C, humidity of 90% ±5% (total 96 hours).	MIL-STD-202H Method 103 Test Condition B
High Temperature Test	1.Change from an initial value L:within±5% 2.no visible 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

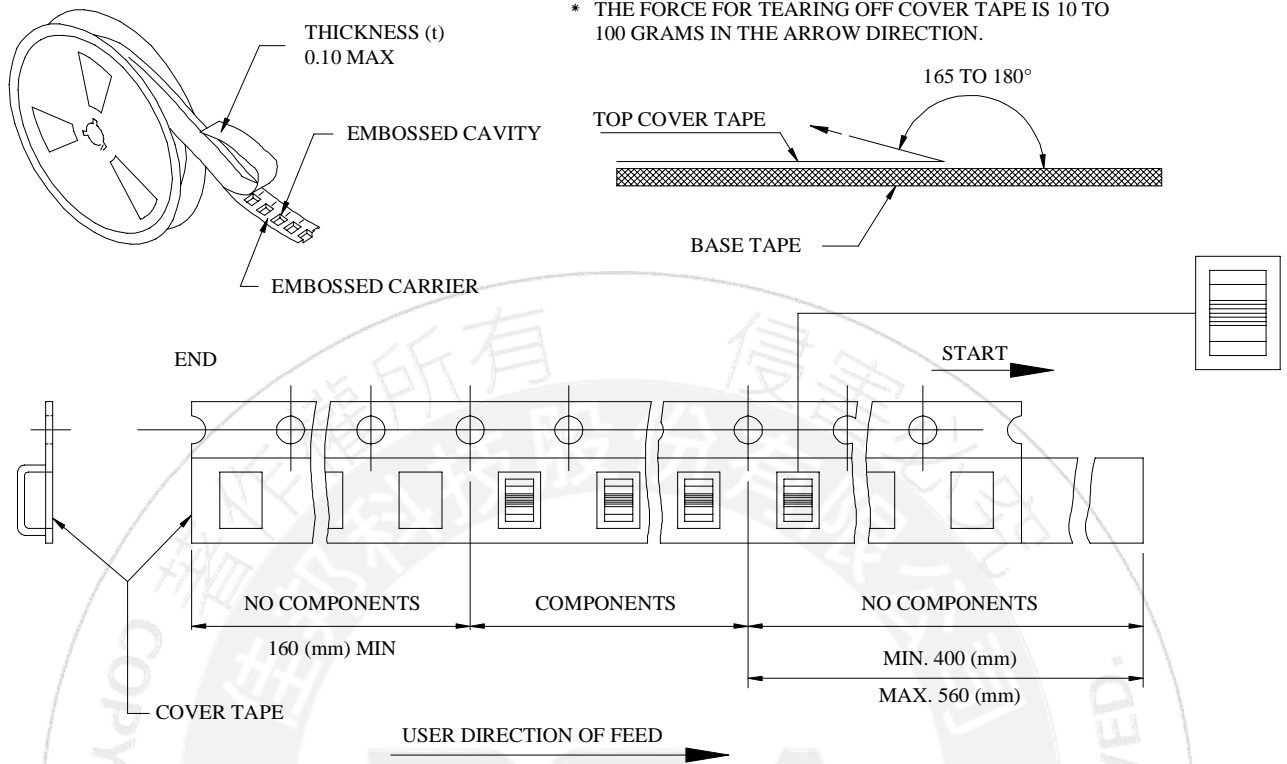
Test Item	Accept criteria	Test Condition	Standard Source
Vibration Test	1.Change from an initial value L:within±5% 2.no visible damage.	10-55-10HZ, amplitude: 1.5mm, direction: X, Y, Z axes, each axis 2 hours (total 6 hours).	MIL-STD-202H Method 201
Solder Heat Resistance Test	1.no visible damage.	IR/convection 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

11. REFLOW CHART

**Typical RoHS Reflow Profile**



12. PACKING

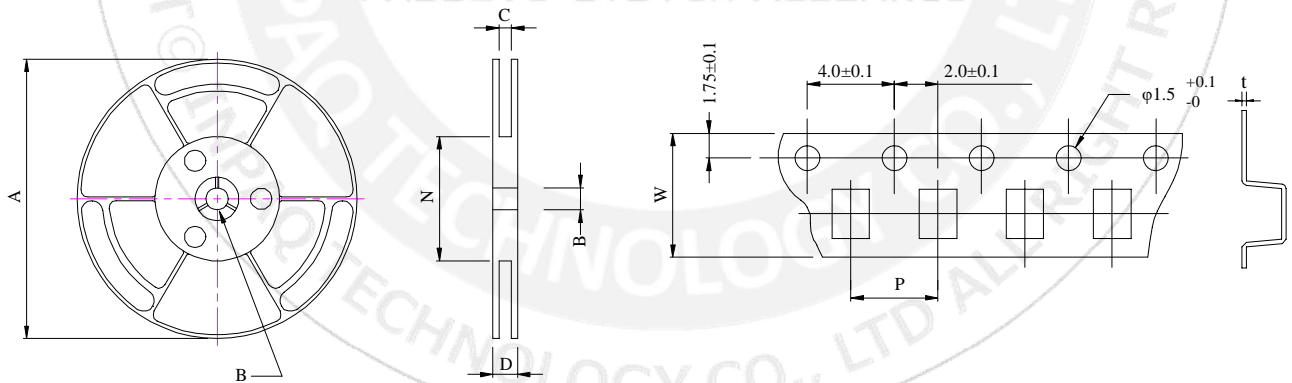


\* THE FORCE FOR TEARING OFF COVER TAPE IS 10 TO 100 GRAMS IN THE ARROW DIRECTION.

■ CARRIER TAPE REELS (mm)

MATERIAL: PLASTIC

■ DIMENSIONS OF CARRIER TAPE (mm)



UNIT: mm

	A	B	C	D	N	P	W	t
DIM.	178	13.0	8.4	12.5	50	4.0	8.0	0.25
TOL.	±2.0	±0.8	+1.0-0	MAX	MIN	±0.1	±0.2	±0.05

Quantity : 2,000 Pcs/Reel