

DATA SHEET

PRODUCT **CHIP INDUCTORS**

SERIES WCI4532CP

PART NO. _____

DESCRIPTION _____

ISSUE DATE 2023/06/29

REVISION DATE 2023/06/29

REFERENCE NO. ENS000180770

RoHS COMPLIANCE ITEM

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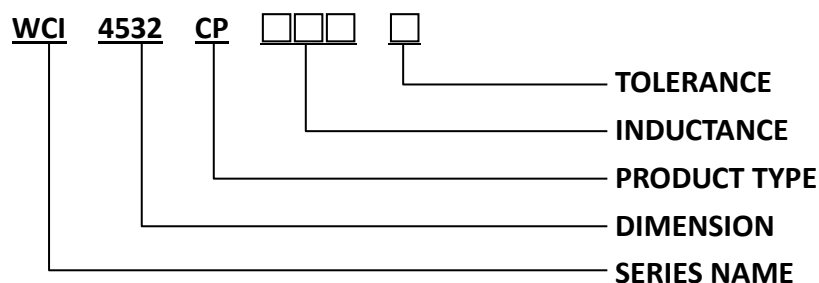
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CHIP INDUCTORS Engineering Specification

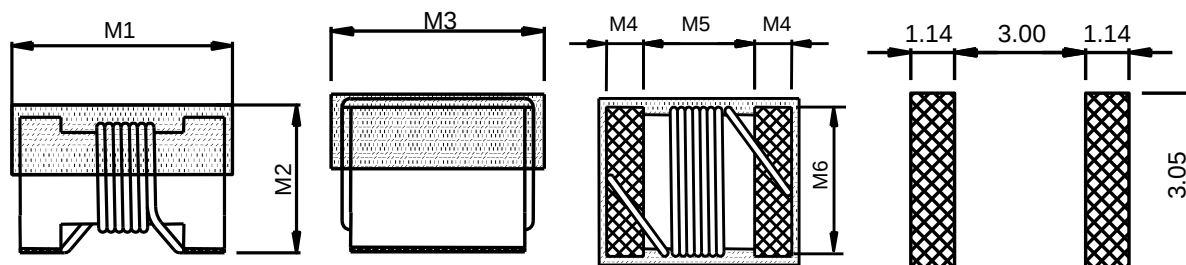
1. Scope

- Ceramic core wire wound construction.
- High Reliability due to wire wound type construction.
- Inductance values from 82 to 4700 nH.
- Exceptional Q and high SRF special for high frequency applications.

2. Explanation of Part Number



3. Shapes and Dimensions



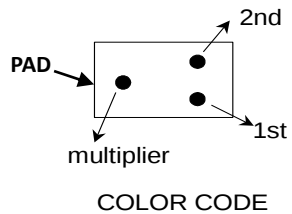
Recommended Patterns

Series	M1	M2	M3	M4	M5	M6
WCI4532CP	4.95 MAX.	3.43 MAX.	3.81 MAX.	0.58±0.1	3.25±0.1	2.90±0.1

4. General Technical Data

- 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. 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 : WCI4532CPR18G

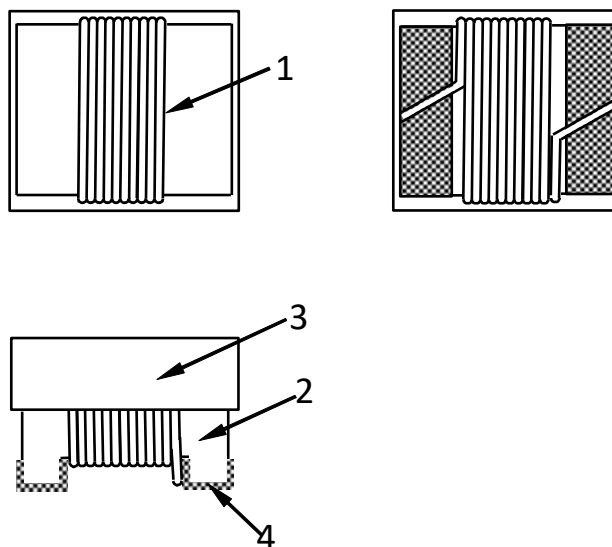
MARKING: Dots 1 and 2 indicate the inductance in nano Henries.

Example: DOTS 1: Brown=>1 , DOTS 2: Gray=>8

Dots 3 indicates multiplier. Brown=>10*10¹

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	Ag+Ni+Sn

8. Test Instrument

- Inductance 、Q : TEST BY KEYSIGHT HP4991B or equivalent.
- SRF : TEST BY KEYSIGHT 5071C or equivalent.
- DC Resistance : TEST BY CHROMA 16502 or equivalent.

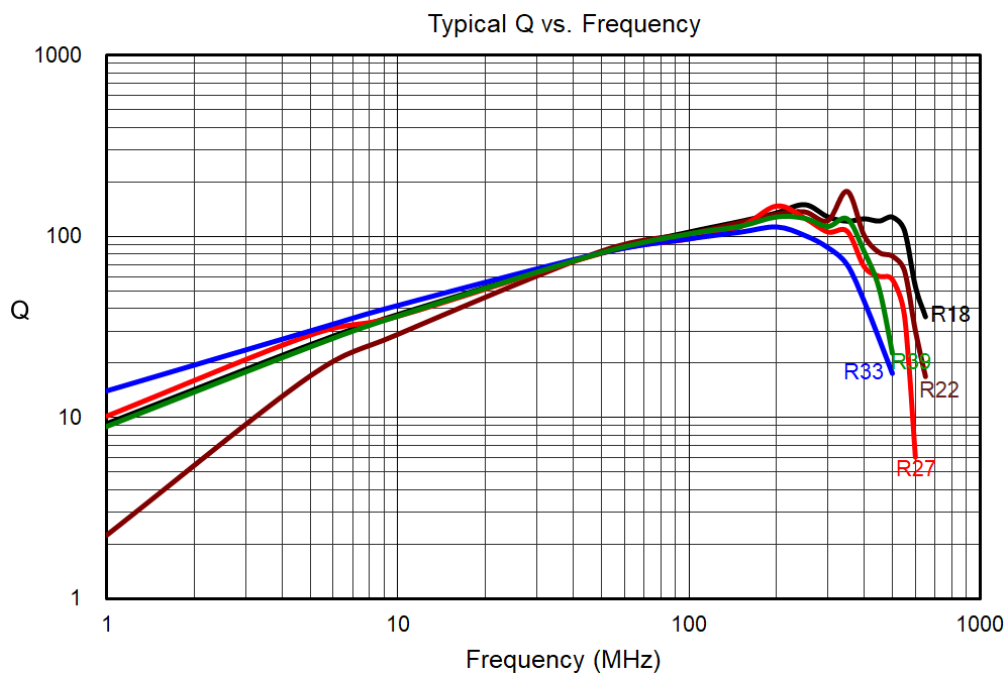
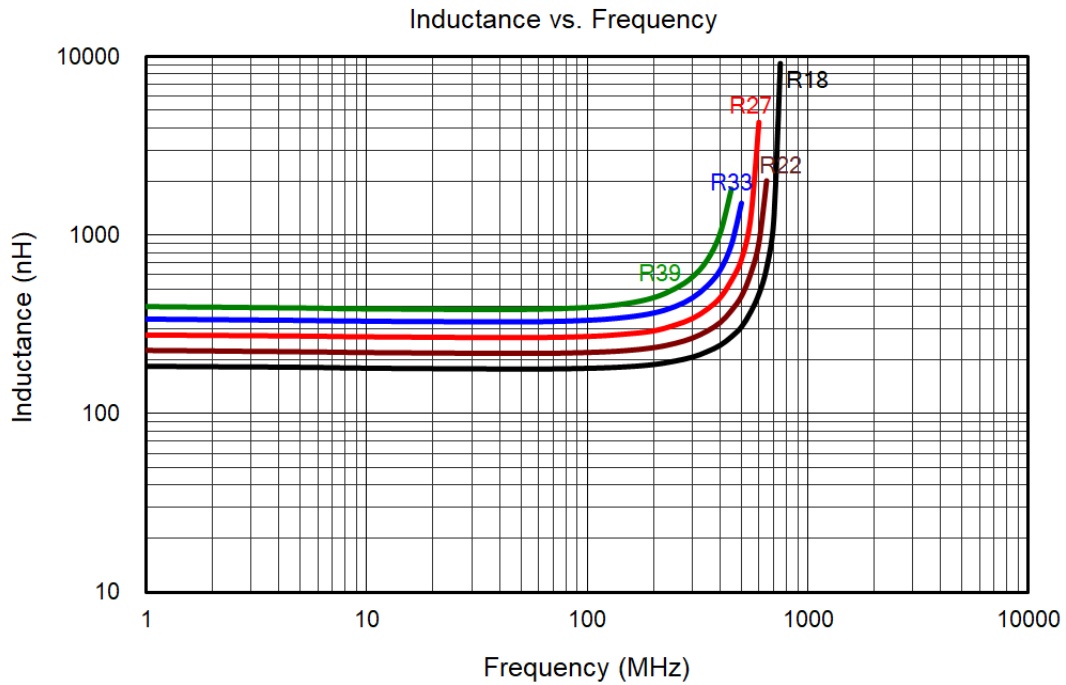
9. Electrical Specification

Part number	Inductance (nH) @50MHz	Inductance Tolerance	Q @50MHz Typical	SRF (MHz) MIN.	DC Resistance (mΩ) MAX.	I _{rms} (mA)	COLOR CODE		
							1st	2nd	multiplier
WCI4532CP82N□	82	G,J,K	70	800	60	1500	Gray	Red	Black
WCI4532CPR10□	100	G,J,K	70	850	110	1150	Brown	Black	Brown
WCI4532CPR12□	120	G,J,K	70	800	110	1150	Brown	Red	Brown
WCI4532CPR15□	150	G,J,K	75	860	110	1150	Brown	Green	Brown
WCI4532CPR18□	180	G,J,K	80	850	110	1150	Brown	Gray	Brown
WCI4532CPR22□	220	G,J,K	80	700	105	940	Red	Red	Brown
WCI4532CPR27□	270	G,J,K	85	730	120	940	Red	Violet	Brown
WCI4532CPR33□	330	G,J,K	80	600	135	850	Orange	Orange	Brown
WCI4532CPR39□	390	G,J,K	80	600	140	850	Orange	White	Brown
WCI4532CP1R2□	1200	G,J,K	62	230	1200	480	Brown	Red	Red
WCI4532CP4R7□	4700	J,K	40	110	3800	300	Yellow	Violet	Red

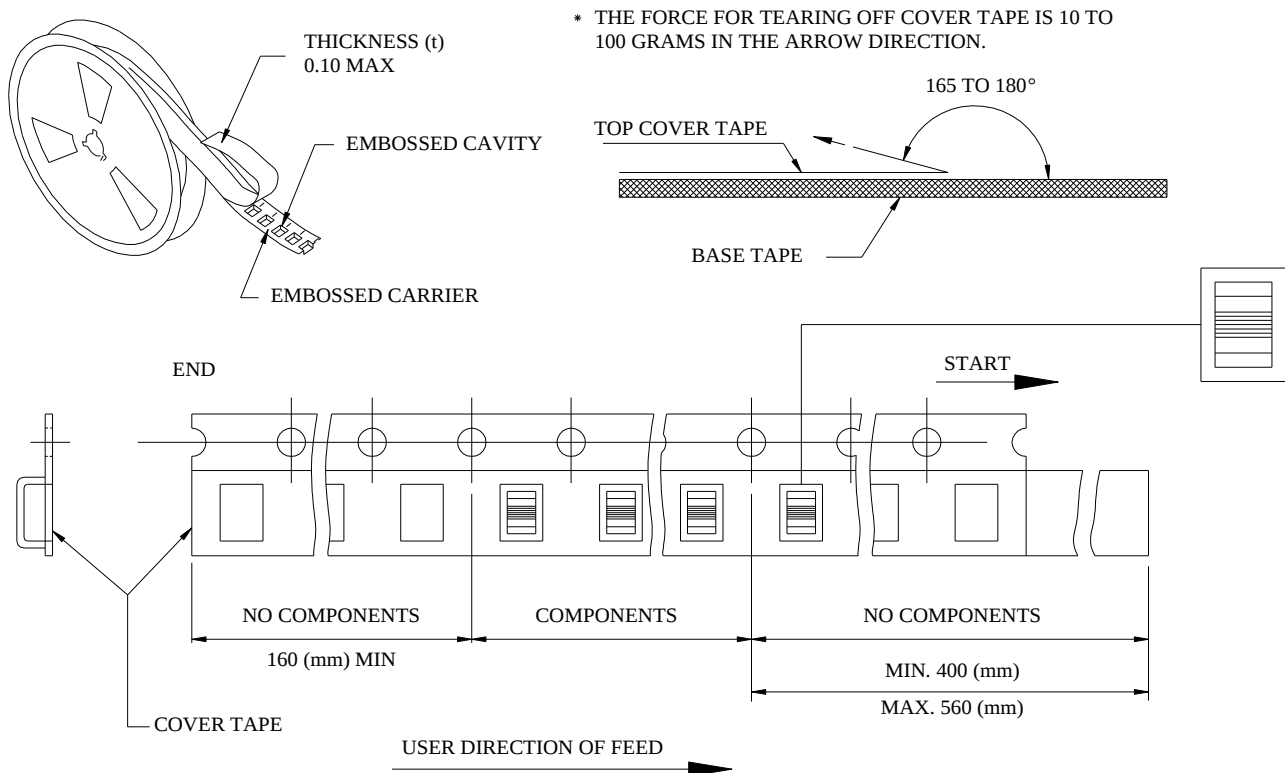
NOTE:

1. □Tolerance: G:±2%, J:±5%, K:±10%
2. MSL: Level 1

10. Electrical Curve



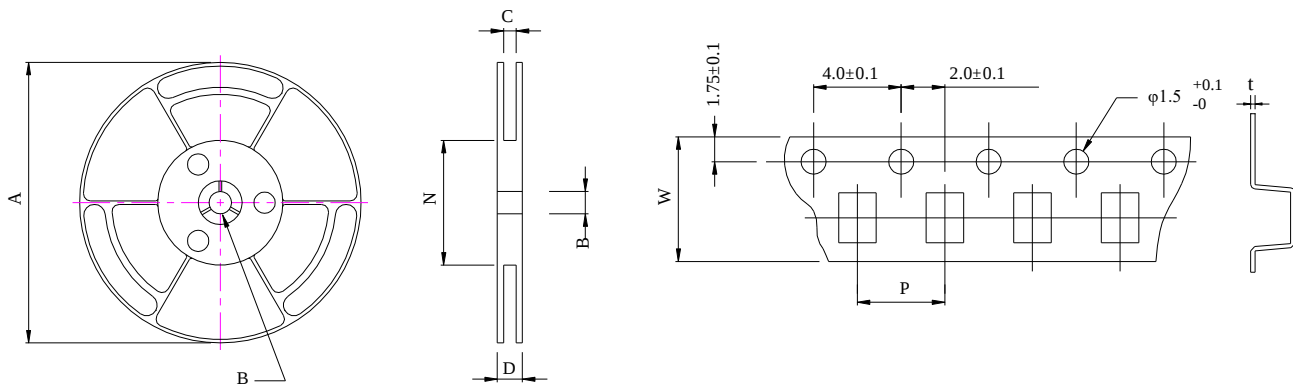
11. Packing



■ CARRIER TAPE REELS (mm)

MATERIAL: PLASTIC

■ DIMENSIONS OF CARRIER TAPE (mm)



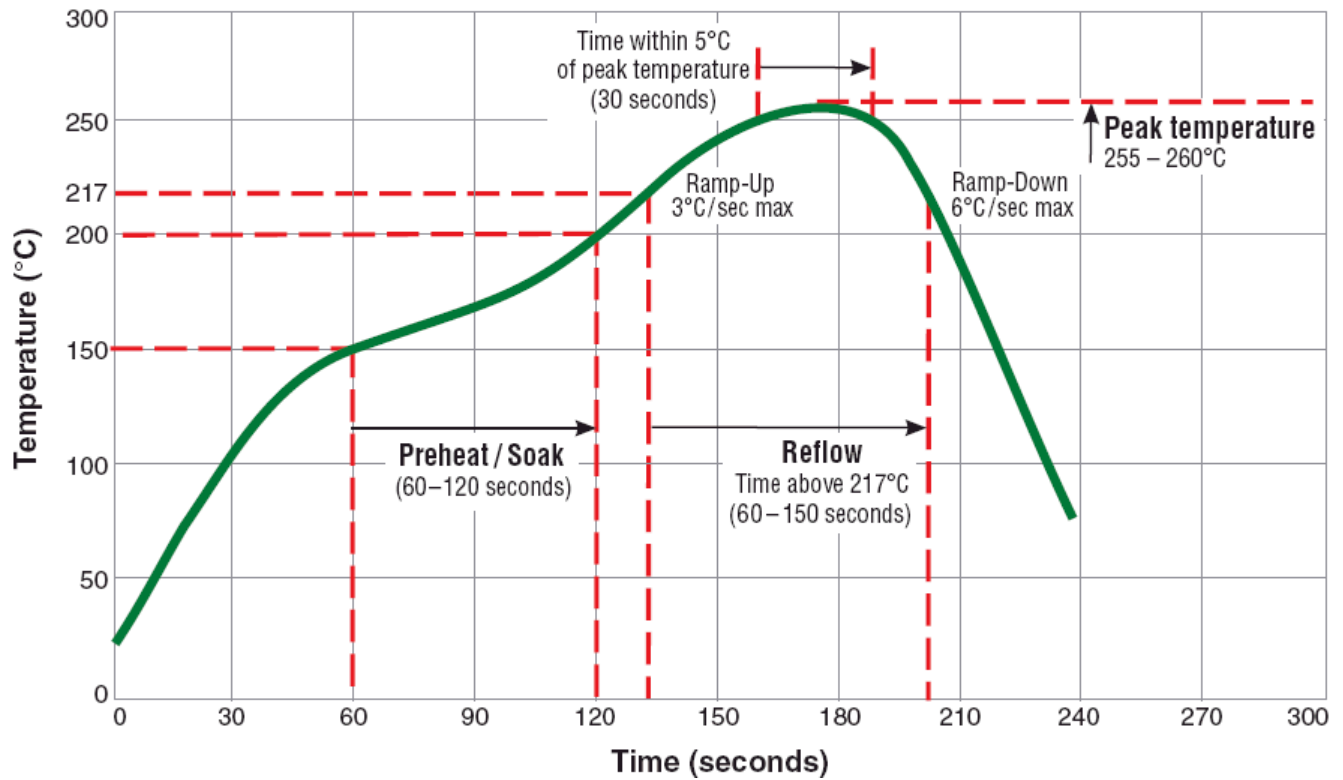
UNIT: mm

	A	B	C	D	N	P	W	t
DIM.	178	13.0	12.5	16.4	50	8.0	12.0	0.25
TOL.	MAX.	+0.5-0.2	+1.5-0	+1.5-0	MIN.	±0.1	±0.2	±0.05

Quantity : 600 Pcs/Reel

12. Recommended Soldering Conditions

Typical RoHS Reflow Profile



13. 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