

DATA SHEET

PRODUCT **CHIP INDUCTORS**

SERIES WCI3225CG

PART NO. _____

DESCRIPTION _____

ISSUE DATE 2023/07/03

REVISION DATE 2023/07/03

REFERENCE NO. ENS000180760

RoHS COMPLIANCE ITEM

Disclaimer:

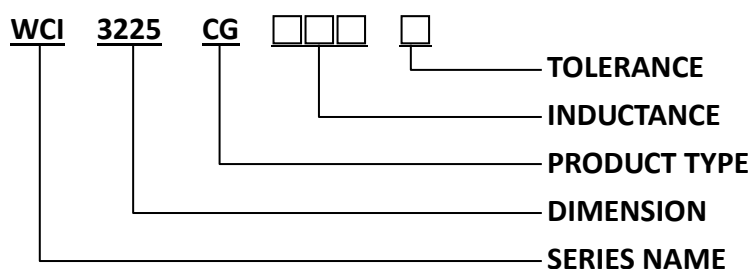
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CHIP INDUCTORS Engineering Specification

1. Scope

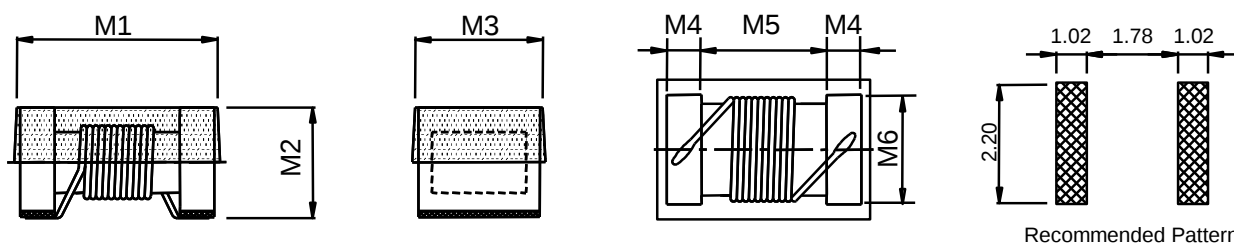
- Ceramic core wire wound construction.
- Gold-plated surface provides excellent solderability and electrical characteristics
- Inductance values from 4.7 to 3300 nH.
- Exceptional Q and high SRF special for high frequency applications.

2. Explanation of Part Number



3. Shapes and Dimensions

UNIT:mm

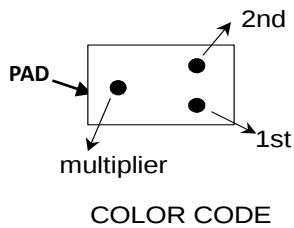


Series	M1	M2	M3	M4	M5	M6
WCI3225CG	3.42 MAX.	2.30 MAX.	2.80 MAX.	0.5±0.1	2.05±0.1	2.10±0.1

4. General Technical Data

- 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: WCI3225CG4N7□

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

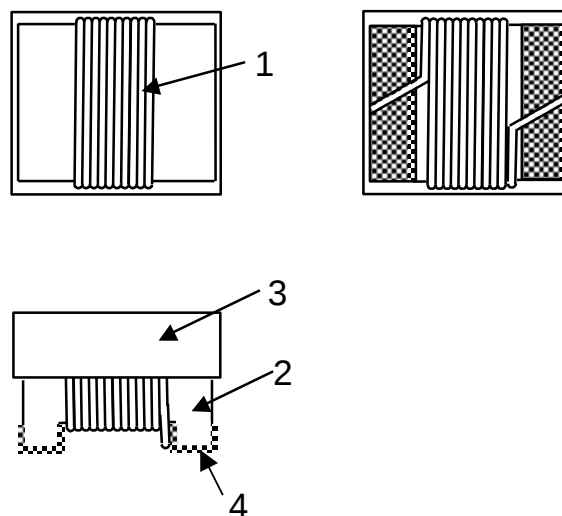
(DOTS 1st: YELLOW , DOTS 2nd: VIOLET)

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+Au

8. Test Instrument

- Inductance 、 Q : TEST BY KEYSIGHT E4991B or equivalent.
- SRF : TEST BY KEYSIGHT 5071C or equivalent.
- DC Resistance : TEST BY CHROMA 16502 or equivalent.

9. Electrical Specification

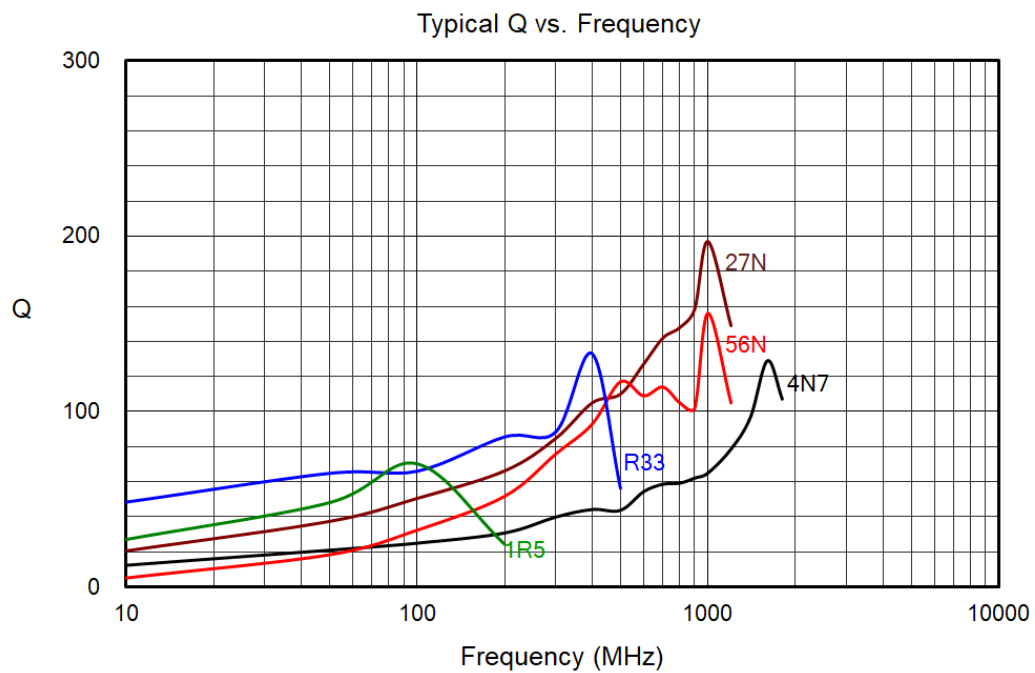
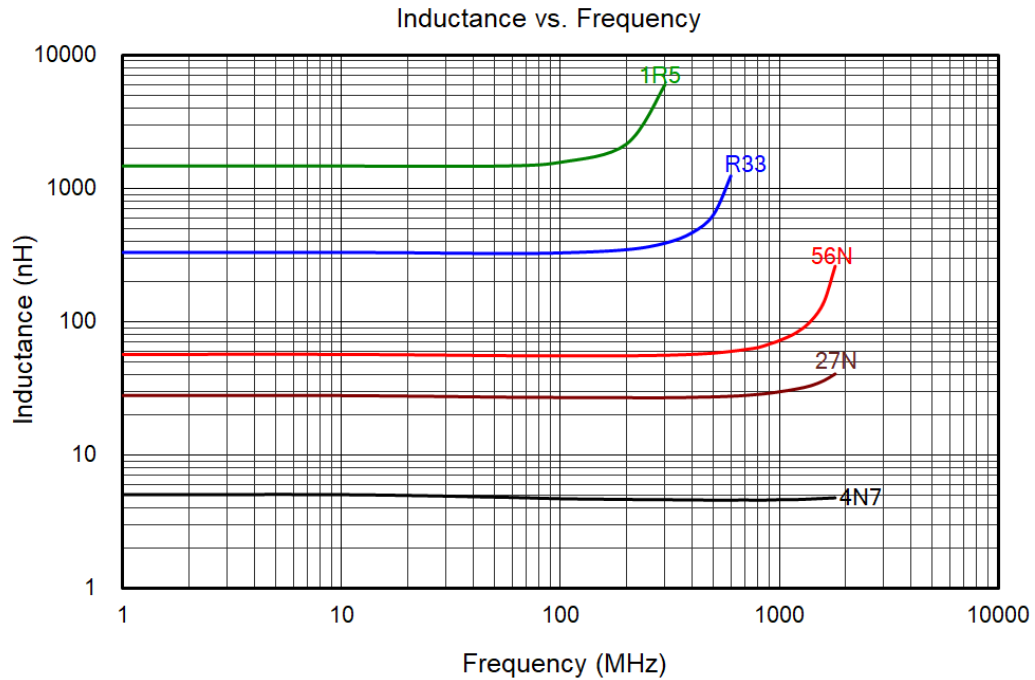
Part number	Inductance (nH)	Test Frequency (MHz)	Inductance Tolerance	Q MIN.	Test Frequency (MHz)	SRF (MHz) MIN.	DC Resistance (OHM) MAX.	Irms (mA)	COLOR CODE		
									1st	2nd	multiplier
WCI3225CG4N7□	4.7	100	K, J	50	1000	6000	0.06	600	Yellow	Violet	Black
WCI3225CG5N6□	5.6	100	K, J	50	1000	5500	0.08	600	Green	Blue	Black
WCI3225CG10N□	10	100	K, J, G	60	500	4000	0.06	600	Brown	Black	Brown
WCI3225CG12N□	12	100	K, J, G	60	500	3400	0.06	600	Brown	Red	Brown
WCI3225CG15N□	15	100	K, J, G	60	500	3200	0.06	600	Brown	Green	Brown
WCI3225CG18N□	18	100	K, J, G	60	300	2800	0.06	600	Brown	Gray	Brown
WCI3225CG22N□	22	100	K, J, G	60	300	2300	0.08	600	Red	Red	Brown
WCI3225CG27N□	27	100	K, J, G	60	300	2000	0.08	600	Red	Violet	Brown
WCI3225CG33N□	33	100	K, J, G	60	300	1800	0.08	600	Orange	Orange	Brown
WCI3225CG39N□	39	100	K, J, G	60	300	1800	0.08	600	Orange	White	Brown
WCI3225CG47N□	47	100	K, J, G	60	300	1600	0.08	600	Yellow	Violet	Brown
WCI3225CG56N□	56	100	K, J, G	60	300	1500	0.10	600	Green	Blue	Brown
WCI3225CG68N□	68	100	K, J, G	60	300	1300	0.10	600	Blue	Gray	Brown
WCI3225CG82N□	82	100	K, J, G	60	300	1200	0.10	600	Gray	Red	Brown
WCI3225CG91N□	91	100	K, J, G	60	300	1100	0.10	1000	White	Brown	Brown
WCI3225CGR10□	100	100	K, J, G	60	300	1100	0.10	1000	Brown	Black	Red
WCI3225CGR12□	120	50	K, J, G	60	300	900	0.12	500	Brown	Red	Red
WCI3225CGR15□	150	50	K, J, G	60	300	800	0.18	500	Brown	Green	Red
WCI3225CGR18□	180	50	K, J, G	60	300	760	0.21	500	Brown	Gray	Red
WCI3225CGR22□	220	50	K, J, G	60	300	760	0.27	500	Red	Red	Red
WCI3225CGR27□	270	50	K, J, G	50	300	660	0.33	500	Red	Violet	Red
WCI3225CGR33□	330	50	K, J, G	50	100	650	0.37	500	Orange	Orange	Red
WCI3225CGR36□	360	50	K, J, G	50	100	500	0.63	600	Orange	Blue	Red
WCI3225CGR39□	390	50	K, J, G	50	100	600	0.63	500	Orange	White	Red
WCI3225CGR47□	470	50	K, J, G	50	100	550	0.69	400	Yellow	Violet	Red
WCI3225CGR56□	560	50	K, J, G	50	100	470	0.90	400	Green	Blue	Red
WCI3225CGR68□	680	25	K, J, G	50	100	450	1.05	400	Blue	Gray	Red
WCI3225CGR82□	820	25	K, J, G	50	100	400	1.45	350	Gray	Red	Red
WCI3225CGR91□	910	25	K, J, G	50	100	400	1.45	350	White	Brown	Red
WCI3225CG1R0□	1000	25	K, J, G	45	100	340	2.10	280	Brown	Black	Orange
WCI3225CG1R2□	1200	7.96	K, J, G	45	50	320	2.40	250	Brown	Red	Orange
WCI3225CG1R5□	1500	7.96	K, J, G	45	50	300	2.70	220	Brown	Green	Orange
WCI3225CG1R8□	1800	7.96	K, J, G	45	50	280	3.50	180	Brown	Gray	Orange
WCI3225CG2R2□	2200	7.96	K, J, G	45	50	260	3.80	150	Red	Red	Orange
WCI3225CG3R3□	3300	27	K, J, G	25	27	140	10	150	Orange	Orange	Orange

NOTE:

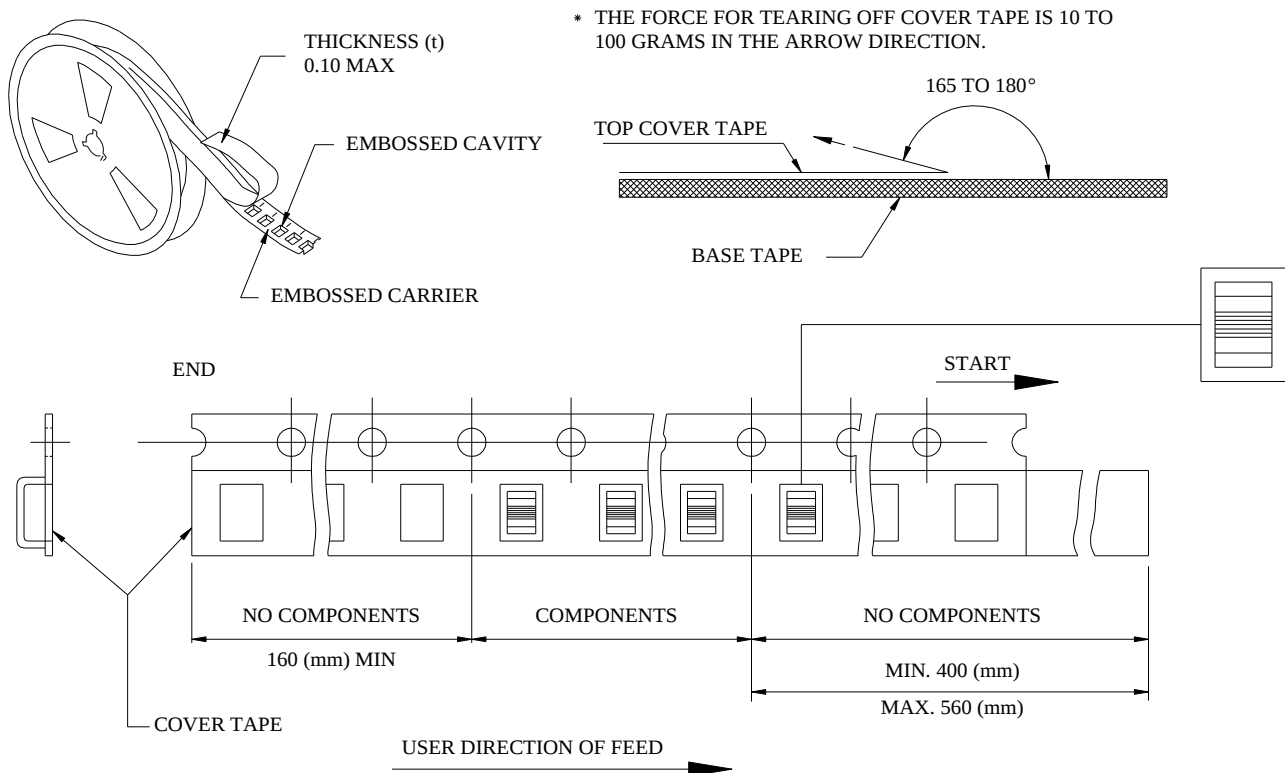
1. □Tolerance: K=±10% ; J=±5% ; G=±2%

2. MSL: Level 1

10. Electrical Curve

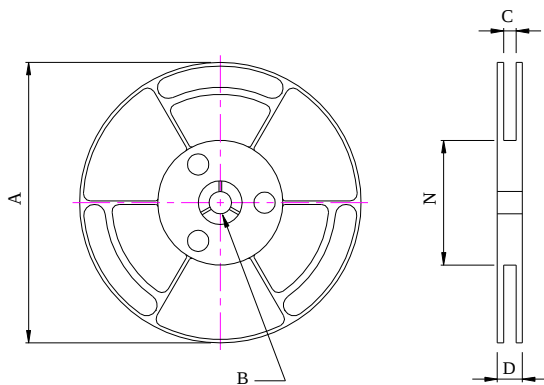


11. Packing

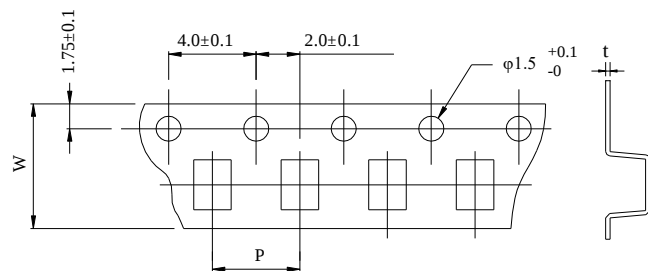


■ CARRIER TAPE REELS (mm)

MATERIAL: PLASTIC



■ DIMENSIONS OF CARRIER TAPE (mm)



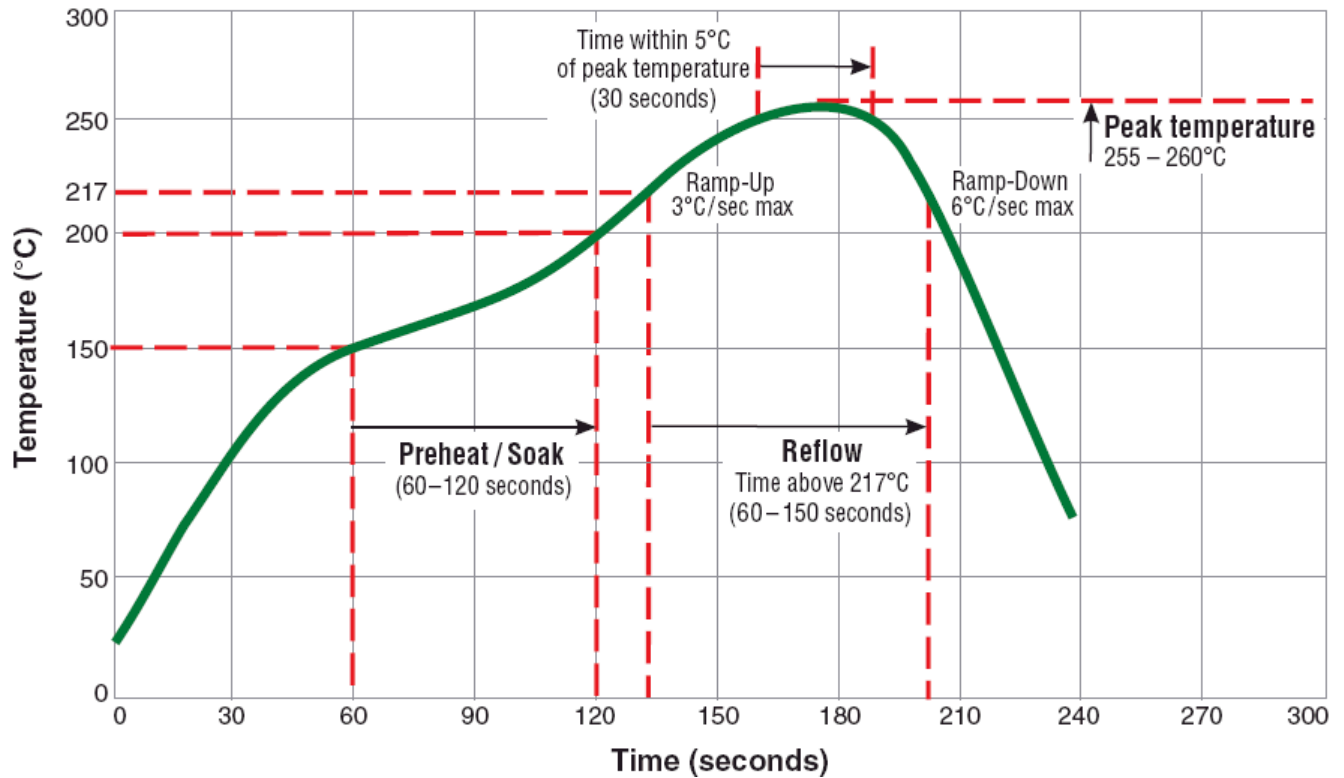
UNIT: mm

	A	B	C	D	N	P	W	t
DIM.	178	13.0	8.4	12.5	50	4.0	8.0	0.23
TOL.	±2.0	±0.8	+1.0-0	MAX.	MIN.	±0.10	±0.2	±0.05

Quantity:1,500 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