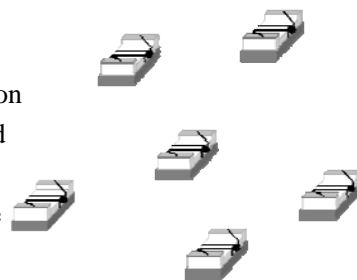


# WIRE WOUNDED CHIP INDUCTORS WICS SERIES

## Introductions

The WICS series are wire wounded chip inductors widely used in the communication applications such as cellular phones, cable modem, ADSL, repeaters, bluetooth, and other electronic devices. The wire wound features advance in higher self resonate frequency, better Q factor, and much more stable performance. Precision tolerance of 2% is available.



## Features

- \* Operating temperature -40 °C to +125 °C for ceramic series and -40 °C to +85 °C for ferrite series.
- \* Excellent solderability and resistance to soldering heat .
- \* Suitable for reflow soldering..
- \* High reliability and easy surface mount assembly.
- \* Wide range of inductance values are available for flexible needs.
- \* Consisting of 0402 ~ 1812 sizes.

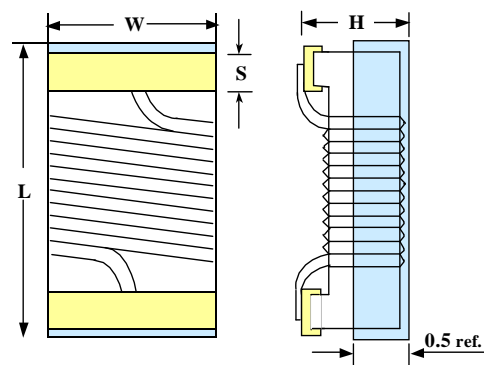
## Part Number Code

**WICS 1008 22N J**

1      2                      3      4

- 1 Product Type
- 2 Chip Dimension

Size mm	Length(L) mm	Width(W) mm	Thickness(H) mm	Terminal(S) mm
WICS 0402	1.00 ± 0.10	0.55 ± 0.10	0.50 ± 0.10	0.20 ± 0.10
WICS 0603	1.60 ± 0.20	1.05 ± 0.20	1.05 ± 0.20	0.35 ± 0.10
WICS 0805	2.00 ± 0.20	1.25 ± 0.20	1.20 ± 0.20	0.40 ± 0.10
WICS 1008	2.50 ± 0.20	2.00 ± 0.20	1.60 ± 0.20	0.50 ± 0.10
WICS 1210	3.20 ± 0.20	2.50 ± 0.20	2.20 ± 0.20	0.50 ± 0.10
WICS 1812	4.50 ± 0.20	3.20 ± 0.20	3.20 ± 0.20	0.50 ± 0.10



- 3 Inductance Value

2N2    2.2 nH                                      22N    22 nH                                      R22 = 220 nH  
 2R2    2.2 uH                                      220    22 uH

- 4

Tolerance    B = ± 0.2 nH    S = ± 0.3 nH    G = ± 2 %    J = ± 5 %    K = ± 10 %

Specification

Part No.	Inductance <sup>1</sup> (nH)	Percent Tolerance	Q <sup>2</sup> Min (MHz)	S.R.F. <sup>3</sup> Min (MHz)	RDC <sup>4</sup> Max (OHM)	IDC <sup>5</sup> Max (MA)	Color Coding		
WICS 1008- 10N □	10 @ 50 MHz	K, J, G	50 @ 500	4100	0.08	1000	Brown	Black	Black
WICS 1008- 12N □	12 @ 50 MHz	K, J, G	50 @ 500	3300	0.09	1000	Brown	Red	Black
WICS 1008- 15N □	15 @ 50 MHz	K, J, G	45 @ 500	2500	0.10	1000	Brown	Green	Black
WICS 1008- 18N □	18 @ 50 MHz	K, J, G	50 @ 350	2500	0.11	1000	Brown	Gray	Black
WICS 1008- 22N □	22 @ 50 MHz	K, J, G	55 @ 350	2400	0.12	1000	Red	Red	Black
WICS 1008- 27N □	27 @ 50 MHz	K, J, G	55 @ 350	1600	0.13	1000	Red	Violet	Black
WICS 1008- 33N □	33 @ 50 MHz	K, J, G	60 @ 350	1600	0.14	1000	Orange	Orange	Black
WICS 1008- 39N □	39 @ 50 MHz	K, J, G	60 @ 350	1500	0.15	1000	Orange	White	Black
WICS 1008- 47N □	47 @ 50 MHz	K, J, G	65 @ 350	1500	0.16	1000	Yellow	Violet	Black
WICS 1008- 56N □	56 @ 50 MHz	K, J, G	65 @ 350	1300	0.18	1000	Green	Blue	Black
WICS 1008- 68N □	68 @ 50 MHz	K, J, G	65 @ 350	1300	0.20	1000	Blue	Gray	Black
WICS 1008- 82N □	82 @ 50 MHz	K, J, G	60 @ 350	1000	0.22	1000	Gray	Red	Black
WICS 1008- R10 □	100 @ 25 MHz	K, J, G	60 @ 350	1000	0.56	650	Brown	Black	Brown
WICS 1008- R12 □	120 @ 25 MHz	K, J, G	60 @ 350	950	0.63	650	Brown	Red	Brown
WICS 1008- R15 □	150 @ 25 MHz	K, J, G	45 @ 100	850	0.70	580	Brown	Green	Brown
WICS 1008- R18 □	180 @ 25 MHz	K, J, G	45 @ 100	750	0.77	620	Brown	Gray	Brown
WICS 1008- R22 □	220 @ 25 MHz	K, J, G	45 @ 100	700	0.84	500	Red	Red	Brown
WICS 1008- R27 □	270 @ 25 MHz	K, J, G	45 @ 100	600	0.91	500	Red	Violet	Brown
WICS 1008- R33 □	330 @ 25 MHz	K, J, G	45 @ 100	570	1.05	450	Orange	Orange	Brown
WICS 1008- R39 □	390 @ 25 MHz	K, J, G	45 @ 100	500	1.12	470	Orange	White	Brown
WICS 1008- R47 □	470 @ 25 MHz	K, J, G	45 @ 100	450	1.19	470	Yellow	Violet	Brown
WICS 1008- R56 □	560 @ 25 MHz	K, J, G	45 @ 100	415	1.33	400	Green	Blue	Brown
WICS 1008- R62 □	620 @ 25 MHz	K, J, G	45 @ 100	375	1.40	300	Blue	Red	Brown
WICS 1008- R68 □	680 @ 25 MHz	K, J, G	45 @ 100	375	1.47	400	Blue	Gray	Brown
WICS 1008- R75 □	750 @ 25 MHz	K, J, G	45 @ 100	360	1.54	360	Violet	Green	Brown
WICS 1008- R82 □	820 @ 25 MHz	K, J, G	45 @ 100	350	1.65	400	Gray	Red	Brown
WICS 1008- R91 □	910 @ 25 MHz	K, J, G	35 @ 50	320	1.68	380	White	Brown	Brown
WICS 1008- 1R0 □	1000 @ 25 MHz	K, J, G	35 @ 50	290	1.75	370	Brown	Black	Red
WICS 1008- 1R2 □	1200 @ 7.9 MHz	K, J, G	35 @ 50	250	2.00	310	Brown	Red	Red
WICS 1008- 1R5 □	1500 @ 7.9 MHz	K, J, G	28 @ 50	200	2.30	330	Brown	Green	Red
WICS 1008- 1R8 □	1800 @ 7.9 MHz	K, J, G	28 @ 50	160	2.60	300	Brown	Gray	Red
WICS 1008- 2R2 □	2200 @ 7.9 MHz	K, J, G	28 @ 50	160	2.80	280	Red	Red	Red
WICS 1008- 2R7 □	2700 @ 7.9 MHz	K, J, G	22 @ 25	135	3.20	290	Red	Violet	Red
WICS 1008- 3R3 □	3300 @ 7.9 MHz	K, J, G	22 @ 25	110	3.40	290	Orange	Orange	Red
WICS 1008- 3R9 □	3900 @ 7.9 MHz	K, J, G	20 @ 25	100	3.60	260	Orange	White	Red
WICS 1008- 4R7 □	4700 @ 7.9 MHz	K, J, G	20 @ 25	90	4.00	260	Yellow	Violet	Red
WICS 1008- 5R6 □	5600 @ 7.9 MHz	K, J, G	18 @ 7.9	40	4.00	240	Green	Blue	Red

WICS 1008-	6R8	□	6800	@	7.9	MHz	K, J, G	18 @	7.9	40	4.90	200	Blue	Gray	Red
WICS 1008-	8R2	□	8200	@	7.9	MHz	K, J, G	18 @	7.9	25	6.10	170	Gray	Red	Red
WICS 1008-	100	□	10000	@	2.5	MHz	K, J, G	18 @	7.9	25	8.00	150	Brown	Black	Orange

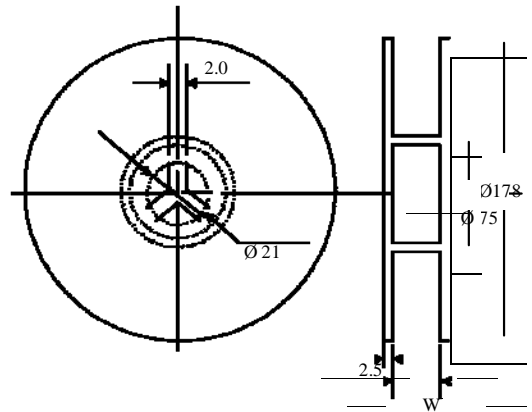
1. Inductance is measured in HP-4287A RF LCR meter with HP-16193 fixture.
2. Q is measured in HP-4287A RF LCR meter with HP-16193 fixture.
3. SRF is measured in HP-8753E RF network analyzer.
4. RDC is measured in HP-4338B milliohmeter.
5. For 15 °C Rise.
6. Tolerance : B=±0.2nH , S=±0.3nH , G=±2% , J=±5% , K=±10%

# PACKAGING INFORMATION

## Packing Quantity

Type	Pcs / Reel
WICS 0402	10,000
WICS 0603	3,000
WICS 0805	2,000
WICS 1008	2,000
WICS 1210	2,000
WICS 1812	750

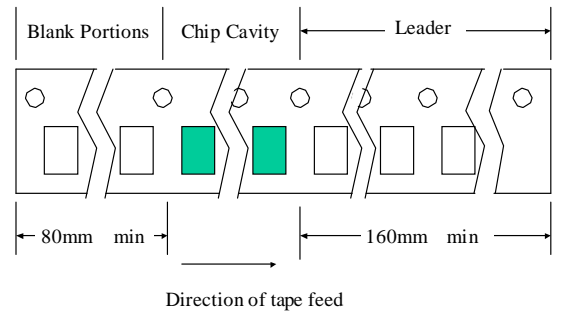
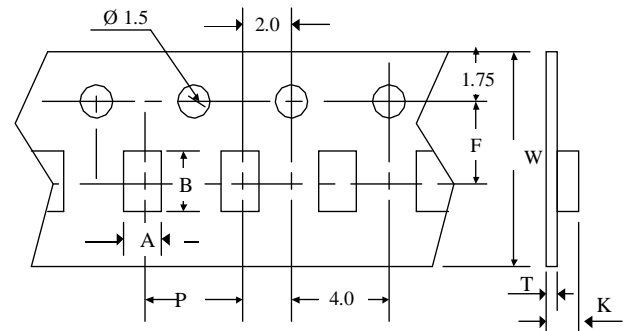
## Reel Dimension



## Tape Dimensions (unit: m/m)

Type	Chip Cavity		Insert Pitch		Tape Thickness		Tape Width
	A	B	P	F	K	T	W
WICS 0402	0.70	1.20	2.00	3.50	0.70	0.10	8.00
WICS 0603	1.20	1.80	4.00	3.50	1.20	0.20	8.00
WICS 0805	1.40	2.30	4.00	3.50	1.40	0.20	8.00
WICS 1008	2.20	2.80	4.00	3.50	1.80	0.20	8.00
WICS 1210	2.80	3.60	4.00	3.50	2.40	0.20	8.00
WICS 1812	3.60	5.00	8.00	5.50	3.60	0.30	12.00

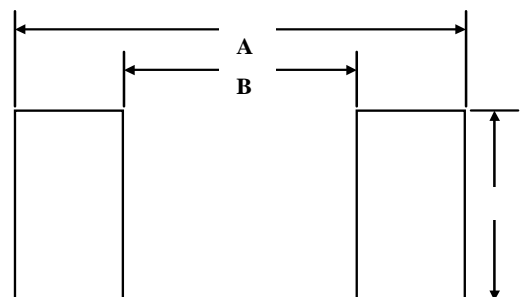
## Tape Dimension



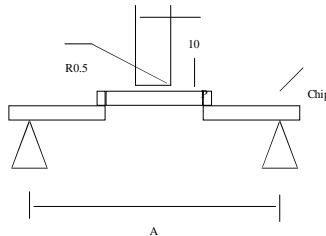
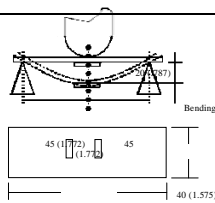
## Pattern Dimensions (unit: m/m)

Type	A	B	C
WICS 0402	1.20	0.45	0.65
WICS 0603	1.90	0.65	1.00
WICS 0805	2.60	0.75	1.20
WICS 1008	3.80	1.20	1.80
WICS 1210	4.00	1.70	2.30
WICS 1812	5.30	3.00	3.00

## Recommended Pattern



## RELIABILITY SPECIFICATION

	ITEM	CONDITION	SPECIFICATION
<b>Endurance Characteristics</b>	Solderability	Dip pads in flux and then in a solder pot (63Sn / 37Pb) at 230 °C ± 5°C for 5 seconds.	A minimum of 95% of the metalized area must be covered with solder.
	Resistance to Soldering Heat	Dip components into flux and then into a solder pot containing 63Sn / 37Pb at 260 °C ± 5 °C for 5 ± 1 seconds.	Change In L / Z (Inductance / Impedance):  MIC / WIC Series: Within ± 5% or ± 0.3nH Other Series: Within ± 20%
	Vibration (Random)	Components shall be randomly vibrated at amplitude of 1.5mm and frequency of 10 - 55 Hz: 0.04 G / Hz for a minimum of 15 minutes per axis for each of the three axes.	
	Cold Temperature Storage	Components shall be stored at temperature of -40 °C ± 2 °C for 1000 ± 48 hours. Then components shall be subjected to standard atmospheric conditions for 1 hour. After that, measurement shall be made.	Change In Q: MIC/WIC: Within ± 10% Others: Within ± 30%
	High Temperature Storage	Components shall be stored at temperature of +85 °C ± 2 °C for 1000 ± 48 hours. Then components shall be subjected to standard atmospheric conditions for 1 hour. After that, measurement shall be made.	
	Moisture Resistance	Components shall be stored in the chamber at 45 °C at 90 - 95 R. H. for 240 hours. Then components are to be tested after 2 hours at room temperature.	Change In Appearance: Without distinct damage
	High Temperature with Loaded	Components shall be stored in the chamber at +85 °C for 1000 hours with rated current applied. Components shall be tested at the beginning of test at 500 hours and 1000 hours. Then components are to be tested after 1 hour at room temperature.	
	Bending Strength		Components shall not be damaged by the forces conditions applied on the test specified as follows: Chip Size: 0402: >1Kg 0603/0805: >3Kg 1206/1210: >6Kg 1816/1812: >8Kg
Flexure Strength		No Mechanical Damages.	