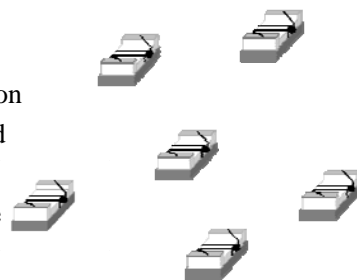


WIRE WOUNDED CHIP INDUCTORS WICS SERIES

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.

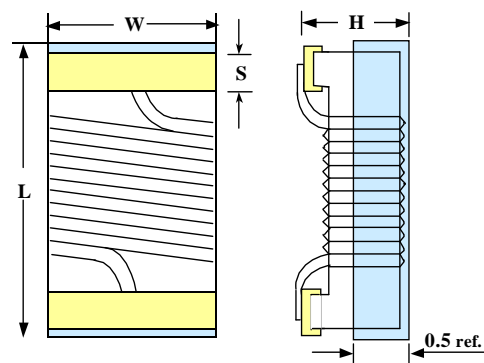
Part Number Code

WICS 0603 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 ¹ (nH)	Percent Tolerance	Q ²		S.R.F. ³ Min (MHz)	RDC ⁴ Max (OHM)	IDC ⁵ Max (MA)	Color Cdding				
			Min (MHz)	Typical 900MHz								
WICS 0603- 1N6 □	1.6 @ 250 MHz	K, J	24 @ 250	72	12500	0.030	700	Red				
WICS 0603- 1N8 □	1.8 @ 250 MHz	K, J	16 @ 250	46	12500	0.045	700	Black				
WICS 0603- 2N0 □	2.0 @ 250 MHz	K, J	13 @ 250	44	12500	0.080	700	Orange				
WICS 0603- 2N2 □	2.2 @ 250 MHz	K, J	13 @ 250	26	12500	0.250	700	Yellow				
WICS 0603- 3N3 □	3.3 @ 250 MHz	K, J	30 @ 250	73	5900	0.045	700	Blue				
WICS 0603- 3N6 □	3.6 @ 250 MHz	K, J	22 @ 250	64	5900	0.063	700	Red				
WICS 0603- 3N9 □	3.9 @ 250 MHz	K, J	22 @ 250	50	6900	0.080	700	Brown				
WICS 0603- 4N3 □	4.3 @ 250 MHz	K, J	22 @ 250	67	5900	0.063	700	Orange				
WICS 0603- 4N7 □	4.7 @ 250 MHz	K, J	20 @ 250	58	5800	0.085	700	Violet				
WICS 0603- 5N1 □	5.1 @ 250 MHz	K, J	20 @ 250	54	5700	0.115	700	Green				
WICS 0603- 5N6 □	5.6 @ 250 MHz	K, J	20 @ 250	43	5800	0.160	700	Black				
WICS 0603- 6N3 □	6.3 @ 250 MHz	K, J	26 @ 250	68	5700	0.115	700	White				
WICS 0603- 6N8 □	6.8 @ 250 MHz	K, J	27 @ 250	62	5800	0.125	700	Red				
WICS 0603- 7N5 □	7.5 @ 250 MHz	K, J	28 @ 250	65	4800	0.115	700	Brown				
WICS 0603- 8N2 □	8.2 @ 250 MHz	K, J	30 @ 250	65	4700	0.125	700	Orange				
WICS 0603- 8N7 □	8.7 @ 250 MHz	K, J	28 @ 250	63	4600	0.109	700	Yellow				
WICS 0603- 9N1 □	9.1 @ 250 MHz	K, J	28 @ 250	62	4600	0.120	700	Black				
WICS 0603- 9N5 □	9.5 @ 250 MHz	K, J	28 @ 250	62	5400	0.145	700	Blue				
WICS 0603- 10N □	10 @ 250 MHz	K, J, G	31 @ 250	69	4800	0.145	700	Orange				
WICS 0603- 11N □	11 @ 250 MHz	K, J, G	30 @ 250	67	4000	0.145	700	Gray				
WICS 0603- 12N □	12 @ 250 MHz	K, J, G	35 @ 250	69	4000	0.130	700	Yellow				
WICS 0603- 13N □	13 @ 250 MHz	K, J, G	30 @ 250	71	4000	0.130	700	Red				
WICS 0603- 15N □	15 @ 250 MHz	K, J, G	35 @ 250	76	4000	0.180	700	Green				
WICS 0603- 16N □	16 @ 250 MHz	K, J, G	34 @ 250	79	3300	0.170	700	White				
WICS 0603- 18N □	18 @ 250 MHz	K, J, G	35 @ 250	76	3100	0.180	700	Blue				
WICS 0603- 20N □	20 @ 250 MHz	K, J, G	38 @ 250	79	3000	0.180	700	Red				
WICS 0603- 22N □	22 @ 250 MHz	K, J, G	38 @ 250	78	3000	0.190	700	Violet				
WICS 0603- 24N □	24 @ 250 MHz	K, J, G	36 @ 250	70	2650	0.205	700	Black				
WICS 0603- 27N □	27 @ 250 MHz	K, J, G	40 @ 250	59	2800	0.220	600	Gray				
WICS 0603- 30N □	30 @ 250 MHz	K, J, G	37 @ 250	68	2250	0.220	600	Brown				
WICS 0603- 33N □	33 @ 250 MHz	K, J, G	40 @ 250	61	2300	0.220	600	White				
WICS 0603- 36N □	36 @ 250 MHz	K, J, G	37 @ 250	64	2080	0.250	600	Red				
WICS 0603- 39N □	39 @ 250 MHz	K, J, G	40 @ 250	61	2200	0.260	600	Black				
WICS 0603- 43N □	43 @ 250 MHz	K, J, G	38 @ 250	62	2000	0.280	600	Orange				
WICS 0603- 47N □	47 @ 200 MHz	K, J, G	38 @ 200	52	2000	0.280	600	Brown				
WICS 0603- 51N □	51 @ 200 MHz	K, J, G	38 @ 250	50	2130	0.300	600	Violet				
WICS 0603- 56N □	56 @ 200 MHz	K, J, G	38 @ 200	51	1900	0.310	600	Red				

WICS 0603-	62N □	62 @	200 MHz	K, J, G	37 @ 200	42	1800	0.330	600	Gray
WICS 0603-	68N □	68 @	200 MHz	K, J, G	37 @ 200	44	1700	0.340	600	Orange
WICS 0603-	72N □	72 @	150 MHz	K, J, G	34 @ 150	41	1700	0.490	400	Yellow
WICS 0603-	75N □	75 @	150 MHz	K, J, G	34 @ 150	-	1700	0.430	1000	Blue
WICS 0603-	79N □	79 @	150 MHz	K, J, G	34 @ 150	44	1700	0.500	400	White
WICS 0603-	82N □	82 @	150 MHz	K, J, G	34 @ 150	37	1700	0.540	400	Green
WICS 0603-	91N □	91 @	150 MHz	K, J, G	34 @ 150	49	1500	0.560	400	Brown
WICS 0603-	R10 □	100 @	150 MHz	K, J, G	34 @ 150	36	1400	0.580	400	Blue
WICS 0603-	R11 □	110 @	150 MHz	K, J, G	32 @ 150	34	1350	0.610	300	Violet
WICS 0603-	R12 □	120 @	150 MHz	K, J, G	32 @ 150	28	1300	0.650	300	Gray
WICS 0603-	R13 □	130 @	150 MHz	K, J, G	32 @ 150	36	1200	0.750	280	Orange
WICS 0603-	R15 □	150 @	150 MHz	K, J, G	28 @ 150	21	990	0.920	280	White
WICS 0603-	R16 □	160 @	150 MHz	K, J, G	28 @ 150	13	990	1.050	260	Red
WICS 0603-	R17 □	170 @	100 MHz	K, J, G	25 @ 100	34	990	1.150	240	Yellow
WICS 0603-	R18 □	180 @	100 MHz	K, J, G	25 @ 100	19	990	1.250	240	Black
WICS 0603-	R20 □	200 @	100 MHz	K, J, G	25 @ 100	-	990	1.500	200	Orange
WICS 0603-	R22 □	220 @	100 MHz	K, J, G	25 @ 100	-	900	1.600	250	Brown
WICS 0603-	R24 □	240 @	100 MHz	K, J, G	25 @ 100	-	900	1.900	200	Violet
WICS 0603-	R27 □	270 @	100 MHz	K, J, G	24 @ 100	-	900	2.000	170	Red
WICS 0603-	R33 □	330 @	100 MHz	K, J, G	25 @ 100	-	900	2.750	100	Blue
WICS 0603-	R36 □	360 @	100 MHz	K, J, G	25 @ 100	-	900	3.070	100	Red
WICS 0603-	R39 □	390 @	100 MHz	K, J, G	25 @ 100	-	900	3.150	100	Yellow
WICS 0603-	R47 □	470 @	100 MHz	K, J, G	25 @ 100	-	750	4.000	80	Green

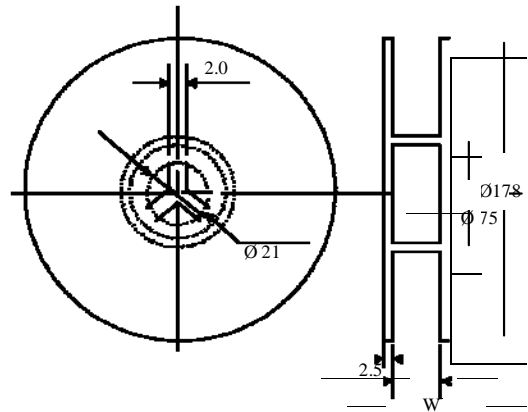
1. Inductance is measured in HP-4287A RF LCR meter with HP-16193 fixture.
2. Q is measured in HP-4287A RF LCR meter with HP-16193 fixture.
3. SRF is measured in HP-8753E RF network analyzer.
4. RDC is measured in HP-4338B milliohmeter.
5. For 15 °C Rise.
6. Tolerance : B=±0.2nH , S=±0.3nH , G=±2% , J=±5%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

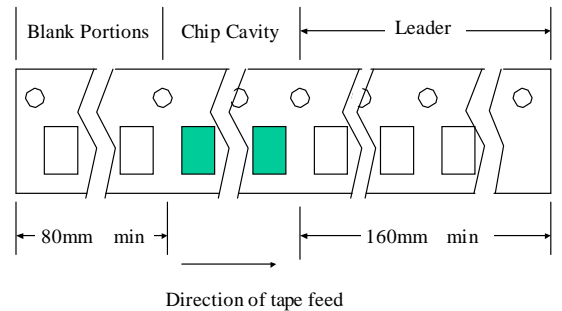
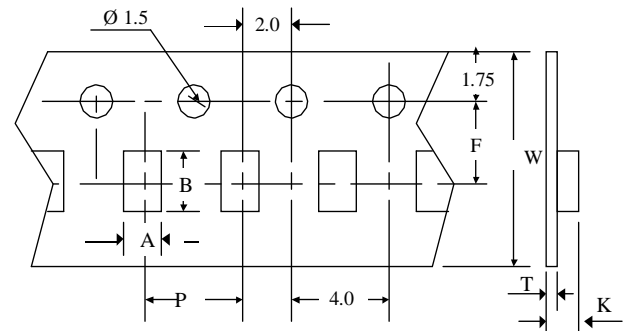
Reel Dimension



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

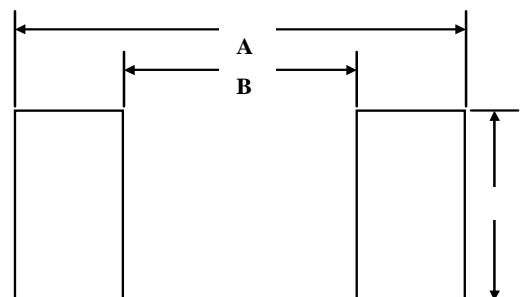
Tape Dimension



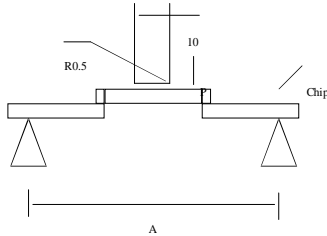
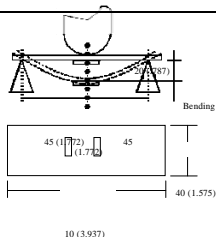
Pattern Dimensions (unit: m/m)

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
Endurance Characteristics	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.	