

# APPROVAL SHEET

## **WLCW1005 SMD Wire Wound Ceramic Chip Inductors**

\*Contents in this sheet are subject to change without prior notice.

### Features

1. Standard chip size bobbin with wire wound coil provides high reliability, productivity and performance.
2. Excellence Q and SRF characteristics for RF application, such as LO tank, antenna matching and filter.
3. Wide range inductance and various tolerance options.
4. RoHS compliant.

### Applications

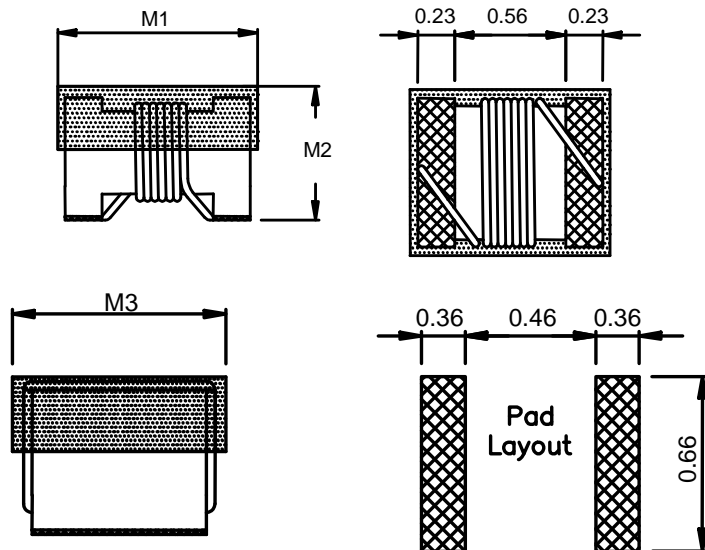
1. Communication: GSM/3G/LTE, Wi-Fi, GPS.
2. Consumer: Cabel/Terrestrial/BS Tuner, Bluetooth, Wireless Audio, Remote control.
3. M2M: ZigBee, Proprietary wireless.

### Shape and Dimension



WLCW1005

Unit: mm



WLCW Series	M1	M2	M3
1005	1.19 Max.	0.66 Max	0.64 Max

### Ordering Information

WL	CW	1005	Z0	G	1N0	T	B
<b>Product Code</b>	<b>Series</b>	<b>Dimensions</b>	<b>Series extension</b>	<b>Tolerance</b>	<b>Value</b>	<b>Packing Code</b>	
WL: Inductor	SMD Wire Wound Ceramic Chip inductor.	1.0 * 0.5 mm 1005 :EIA 0402	Z0:STD	G: ± 2% J: ± 5%	1N0 =1.0nH 10N=10nH R10=100nH	T=7" Reeled (Paper tape)	B:STD

## Electrical Characteristics

### WLCW1005 series

Walsin Part Number	L (nH)	Tolerance	Q (Min)	Measuring Frequency (MHz)	900 MHz		1.7 GHz		SRF (GHz) Min	RDC Max ( $\Omega$ )	I <sub>rms</sub> (mA)
					L Typ	Q Typ	L Typ	Q Typ			
WLCW1005Z0□1N0TB	1.0	J、K	16	250	1.02	75	1.02	70	12.70	0.045	1360
WLCW1005Z0□1N2TB	1.2	J、K	16	250	1.17	30	1.17	40	12.90	0.090	740
WLCW1005Z0□1N8TB	1.8	J、K	16	250	2.08	59	1.94	74	12.00	0.070	1040
WLCW1005Z0□1N9TB	1.9	J、K	16	250	1.72	65	1.74	80	11.30	0.070	1040
WLCW1005Z0□2N0TB	2.0	G、J、K	16	250	1.93	54	1.93	75	11.10	0.070	1040
WLCW1005Z0□2N2TB	2.2	G、J、K	19	250	2.19	55	2.23	82	10.80	0.070	960
WLCW1005Z0□2N4TB	2.4	G、J、K	15	250	2.24	51	2.27	70	10.50	0.068	790
WLCW1005Z0□2N5TB	2.5	G、J、K	15	250	2.37	33	2.38	53	10.40	0.070	800
WLCW1005Z0□2N7TB	2.7	G、J、K	16	250	2.58	42	2.60	61	10.40	0.120	640
WLCW1005Z0□3N3TB	3.3	G、J、K	19	250	3.10	65	3.12	80	7.00	0.066	840
WLCW1005Z0□3N6TB	3.6	G、J、K	19	250	3.56	45	3.62	71	6.80	0.066	840
WLCW1005Z0□3N9TB	3.9	G、J、K	19	250	3.89	50	4.14	72	6.00	0.066	840
WLCW1005Z0□4N1TB	4.1	G、J、K	19	250	3.89	50	4.14	72	6.00	0.066	700
WLCW1005Z0□4N3TB	4.3	G、J、K	18	250	4.19	40	4.30	71	6.00	0.091	700
WLCW1005Z0□4N7TB	4.7	G、J、K	15	250	4.78	47	4.59	62	4.70	0.130	640
WLCW1005Z0□5N1TB	5.1	G、J、K	20	250	5.16	52	5.19	76	4.80	0.083	800
WLCW1005Z0□5N6TB	5.6	G、J、K	20	250	5.20	48	5.28	75	4.80	0.083	760
WLCW1005Z0□5N8TB	5.8	G、J、K	20	250	5.60	48	5.63	74	4.80	0.083	760
WLCW1005Z0□6N2TB	6.2	G、J、K	20	250	6.15	50	6.20	73	4.80	0.083	760
WLCW1005Z0□6N8TB	6.8	G、J、K	20	250	6.73	65	6.95	70	4.80	0.083	680
WLCW1005Z0□7N3TB	7.3	G、J、K	20	250	7.51	60	7.89	80	4.80	0.260	680
WLCW1005Z0□7N5TB	7.5	G、J、K	22	250	7.91	60	8.22	85	4.80	0.100	680
WLCW1005Z0□8N2TB	8.2	G、J、K	22	250	8.53	64	8.81	88	4.40	0.100	680
WLCW1005Z0□8N7TB	8.7	G、J、K	18	250	8.78	54	9.21	73	4.10	0.200	480
WLCW1005Z0□9N0TB	9.0	G、J、K	18	250	9.07	65	9.53	83	4.16	0.100	680
WLCW1005Z0□9N1TB	9.1	G、J、K	22	250	9.27	63	8.61	73	4.16	0.100	680
WLCW1005Z0□9N5TB	9.5	G、J、K	18	250	9.64	62	9.93	56	4.00	0.200	480
WLCW1005Z0□10NTB	10	G、J、K	21	250	10.16	50	9.72	85	3.90	0.200	480
WLCW1005Z0□11NTB	11	G、J、K	24	250	10.89	53	11.46	77	3.68	0.120	640
WLCW1005Z0□12NTB	12	G、J、K	24	250	12.71	62	12.87	77	3.60	0.120	640
WLCW1005Z0□13NTB	13	G、J、K	24	250	13.4	51	14.63	57	3.45	0.210	440

Walsin Part Number	L (nH)	Tolerance	Q (Min)	Measuring Frequency (MHz)	900 MHz		1.7 GHz		SRF (GHz) Min	RDC Max ( $\Omega$ )	I <sub>rms</sub> (mA)
					L Typ	Q Typ	L Typ	Q Typ			
WLCW1005Z0□15NTB	15	G、J、K	24	250	15.2	55	16.88	76	3.28	0.170	560
WLCW1005Z0□16NTB	16	G、J、K	24	250	16.43	45	18.79	49	3.10	0.220	560
WLCW1005Z0□18NTB	18	G、J、K	25	250	17.39	52	22.18	64	3.10	0.230	420
WLCW1005Z0□19NTB	19	G、J、K	24	250	19.51	60	21.85	72	3.04	0.200	480
WLCW1005Z0□20NTB	20	G、J、K	25	250	20.7	52	23.66	53	3.00	0.250	420
WLCW1005Z0□22NTB	22	G、J、K	25	250	22.33	57	26.54	53	2.80	0.300	400
WLCW1005Z0□23NTB	23	G、J、K	22	250	23.8	49	26.85	64	2.72	0.300	400
WLCW1005Z0□24NTB	24	G、J、K	25	250	25.59	59	31.06	56	2.70	0.300	400
WLCW1005Z0□27NTB	27	G、J、K	24	250	29.26	45	32.56	62	2.48	0.300	400
WLCW1005Z0□30NTB	30	G、J、K	25	250	31.9	45	40.38	41	2.35	0.300	400
WLCW1005Z0□33NTB	33	G、J、K	24	250	34.12	35	40.32	36	2.35	0.440	400
WLCW1005Z0□36NTB	36	G、J、K	24	250	39.5	45	48.4	53	2.32	0.440	320
WLCW1005Z0□39NTB	39	G、J、K	25	250	42.65	45	50.96	42	2.10	0.550	200
WLCW1005Z0□40NTB	40	G、J、K	24	250	39.0	44	47.41	35	2.24	0.440	320
WLCW1005Z0□43NTB	43	G、J、K	25	250	45.8	46	61.55	35	2.03	0.810	100
WLCW1005Z0□47NTB	47	G、J、K	20	250	52.85	42	-	-	2.10	0.830	150
WLCW1005Z0□51NTB	51	G、J、K	25	250	56.6	40	-	-	1.75	0.820	100
WLCW1005Z0□56NTB	56	G、J、K	22	250	58.59	40	-	-	1.76	0.970	100
WLCW1005Z0□57NTB	57	G、J、K	22	250	60.15	40	-	-	1.76	0.970	100
WLCW1005Z0□62NTB	62	G、J	22	250	64.95	40	-	-	1.76	1.620	100
WLCW1005Z0□68NTB	68	G、J、K	22	250	72.17	40	-	-	1.62	1.120	100
WLCW1005Z0□72NTB	72	G、J、K	20	250	-	-	-	-	1.26	2.000	100
WLCW1005Z0□75NTB	75	G、J	20	250	-	-	-	-	1.62	2.000	50
WLCW1005Z0□82NTB	82	G、J、K	20	250	-	-	-	-	1.26	1.550	50
WLCW1005Z0□91NTB	91	G、J	22	250	-	-	-	-	1.26	2.000	50
WLCW1005Z0□R10TB	100	G、J、K	20	250	-	-	-	-	1.16	2.000	30
WLCW1005Z0□R12TB	120	G、J、K	20	250	-	-	-	-	1.90	2.200	50

OPERATING TEMPERATURE : -40°C ~ 125°C

Storage temperature Component: -40°C to +100°C. Tap e and reel packaging: -40°C to +80°C.

L、Q :TESTED BY AGILENT 4287A with 16197A or its equivalent

SRF : TESTED BY HP 8753E or HP4291B with 16193A or its equivalent

DCR: TESTED BY AGILENT 4338B or its equivalent

※MSL : LEVEL 1

## RELIABILITY PERFORMANCE

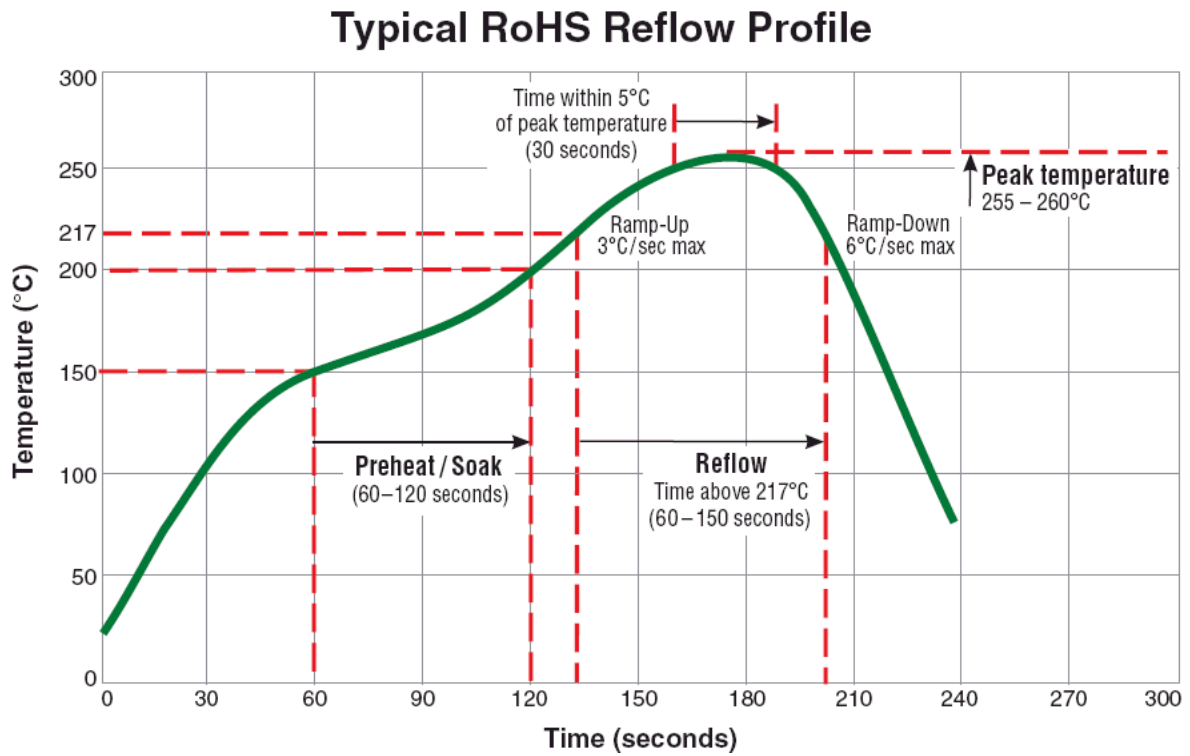
## Reliability Experiment For Electrical

Test Item	Test Condition	Standard Source
Humidity Test	+40°C ± 2°C, humidity of 90% ± 5% (total 96 hours).	MIL-STD-202G Method 103B Test Condition B
High Temperature Test	1. Temperature: +125°C ± 2°C 2. Test time: 48 ± 2hrs	IEC 68-2 Test Condition B
Low Temperature Test	1. Temperature: -40°C ± 2°C 2. Test time: 48 ± 2hrs	IEC 68-2 Test Condition A
Thermal Shock	+125°C ± 5°C (30 minutes) ~ -40 ± 5°C (30 minutes), temperature switch time: 5 minutes (total 50 cycles).	MIL-STD-202G Method 107G Test Condition B-2
Life Test	+70°C ± 5°C (250Hours)	MIL-STD-202G Method 108A Test Condition B

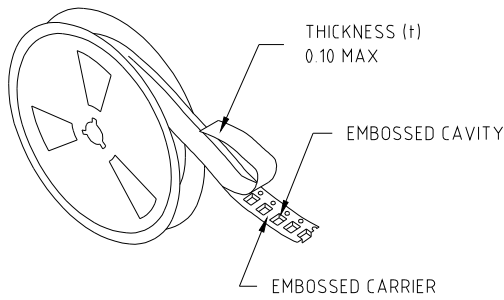
## Reliability Experiment For Physical

Test Item	Test Condition	Standard Source
Vibration Test	10-55-10HZ, amplitude: 1.5mm, direction: X, Y, Z axes, each axis 2 hours (total 6 hours).	MIL-STD-202G Method 201A
Solder Heat Resistance Test	IR/convection reflow: Peak Temp 250 ± 5°C for 5Sec in air, Through 2 Cycle. Temperature Ramp: +1 ~ 4°C/sec; Above 183°C, must keep 90 s - 120 s	MIL-STD-202G Method 210F Test Condition (Reflow)
Solder Ability Test	Soak in 245 °C solder pot of 3Sec, PAD must have 95% above coverage.	J-STD-003B

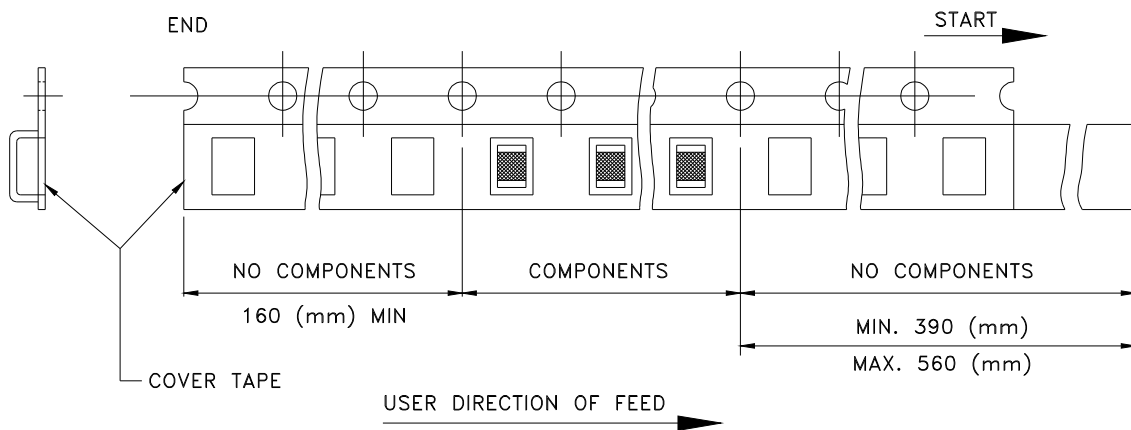
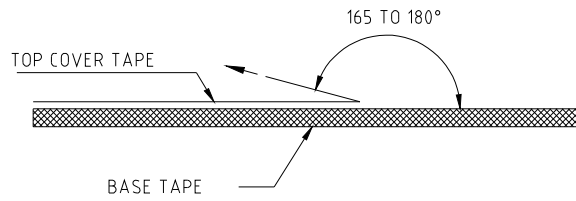
### Typical RoHS Reflow Profile



### Packaging Specification

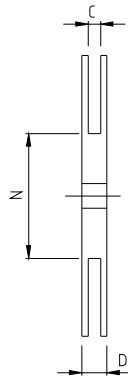
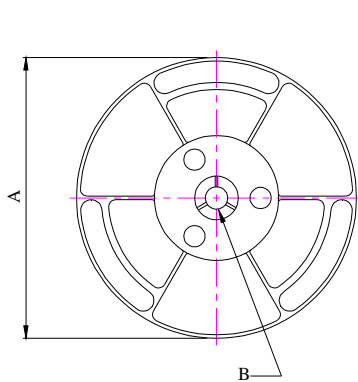


- THE FORCE FOR TEARING OFF COVER TAPE IS 10 TO 100 GRAMS IN THE ARROW DIRECTION.

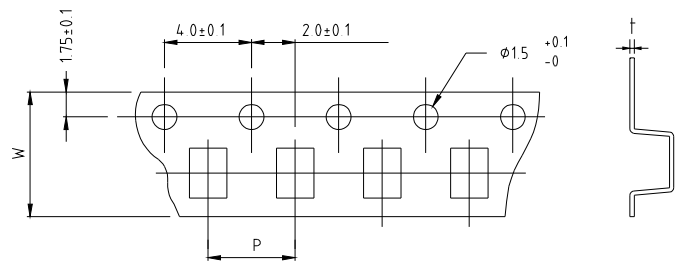


#### ■ CARRIER TAPE REELS (mm)

MATERIAL: PAPER



#### ■ DIMENSIONS OF CARRIER TAPE (mm)



	A	B	C	D	N	P	W	t
DIM.	178	13.0	8.4	14.4	50	2.0	8.0	0.68
TOL.	MAX.	+0.5-0.2	+2.0-0	MAX	MIN.	±0.1	±0.2	±0.03

Quantity per reel : 4K pcs