


# APPROVAL SHEET



**WLCW1608HQ**  
**SMD Wire Wound Ceramic Chip Inductors**  
**(High Q)**

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

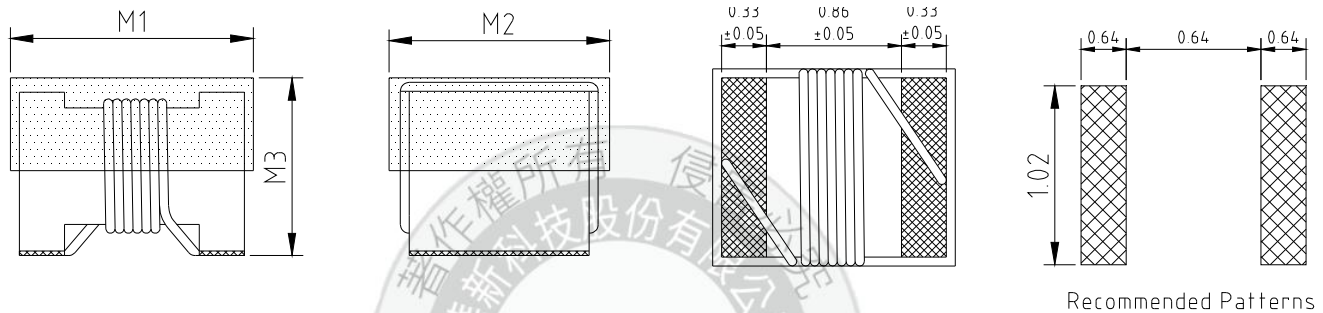
## Features

1. Standard chip size bobbin with wire wound coil provides high reliability, productivity and performance.
2. WLCW1608HQ Series offers higher Q factors. In addition, current handling has been improved with significantly lower DCR values. Like all wire wound ceramic chip inductors, the WLCW1608HQ Series provides exceptional SRFs, tight inductance tolerance and batch consistency
3. Wide range inductance and various tolerance options.
4. RoHS compliant.

## Applications

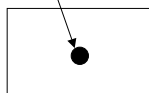
1. Communication: GSM/3G/LTE, Wi-Fi, GPS.
2. Consumer: Cabel/Terrestrial/BS Tuner, Bluetooth, Wireless Audio, Remote control.
3. M2M: ZigBee, Proprietary wireless.

## Shape and Dimension



Unit: mm  
**MARKING**

IDENTIFIER



COLOR CODE

Example : WLCW1608HQ□1N8PB

MARKING : BLACK

MARK COLOR CODE IN COMPOSITE SPECIFICATION

Color Code



WLCW1608HQ

WLCW Series	M1	M2	M3
1608HQ	1.7± 0.1	1.02± 0.1	0.9± 0.1

## Ordering Information

WL	CW	1608	HQ	J	1N8	P	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.	1608 (EIA 0603)	HQ: High Performance	G: ± 2% J: ± 5%	1N8 =1.8nH 12N=12nH R12=120nH	P=7" Reeled (Embossed tape)	B:STD

## Electrical Characteristics

WLCW1608HQ series

Walsin Part Number	L (nH)	Tolerance	Q (Min)	Measuring Frequency (MHz)	SRF (GHz) Min	RDC Max ( $\Omega$ )	Rated Current (mA)	Color Code
WLCW1608HQ□1N8PB	1.8	J	23	250	16.0	0.033	2100	BLACK
WLCW1608HQ□2N2PB	2.2	J	13	250	15.0	0.180	900	YELLOW
WLCW1608HQ□3N3PB	3.3	J	32	250	9.6	0.024	1900	BLUE
WLCW1608HQ□3N6PB	3.6	G、J	40	250	9.7	0.031	1900	RED
WLCW1608HQ□3N9PB	3.9	G、J	35	250	7.5	0.039	1600	BROWN
WLCW1608HQ□4N3PB	4.3	G、J	30	250	7.5	0.08	1300	ORANGE
WLCW1608HQ□4N7PB	4.7	G、J	26	250	7.9	0.100	1100	VIOLET
WLCW1608HQ□5N1PB	5.1	G、J	40	250	8.9	0.036	1700	GREEN
WLCW1608HQ□5N6PB	5.6	G、J	48	250	6.6	0.036	1700	BLACK
WLCW1608HQ□6N0PB	6	G、J	49	250	6.0	0.036	1700	WHITE
WLCW1608HQ□6N8PB	6.8	G、J	42	250	5.8	0.042	1400	RED
WLCW1608HQ□7N2PB	7.2	G、J	48	250	5.4	0.052	1400	WHITE
WLCW1608HQ□7N5PB	7.5	G、J	41	250	5.3	0.08	1300	BROWN
WLCW1608HQ□8N2PB	8.2	G、J	46	250	5.9	0.054	1400	ORANGE
WLCW1608HQ□8N7PB	8.7	G、J	46	250	5.5	0.054	1400	YELLOW
WLCW1608HQ□9N1PB	9.1	G、J	40	250	5.1	0.037	1400	BLACK
WLCW1608HQ□9N5PB	9.5	G、J	49	250	4.9	0.053	1400	BLUE
WLCW1608HQ□10NPB	10	G、J	49	250	4.3	0.048	1400	ORANGE
WLCW1608HQ□11NPB	11	G、J	41	250	4.1	0.042	1400	GRAY
WLCW1608HQ□12NPB	12	G、J	37	250	4.1	0.088	1100	YELLOW
WLCW1608HQ□15NPB	15	G、J	48	250	3.6	0.078	1200	GREEN
WLCW1608HQ□16NPB	16	G、J	45	250	3.5	0.085	1100	WHITE
WLCW1608HQ□18NPB	18	G、J	41	250	3.3	0.066	1200	BLUE
WLCW1608HQ□22NPB	22	G、J	44	250	3.15	0.140	850	VIOLET
WLCW1608HQ□23NPB	23	G、J	40	250	3.0	0.150	850	ORANGE
WLCW1608HQ□24NPB	24	G、J	42	250	2.95	0.074	1100	BLACK
WLCW1608HQ□27NPB	27	G、J	44	250	2.8	0.150	780	GRAY
WLCW1608HQ□30NPB	30	G、J	49	250	2.8	0.130	920	BROWN
WLCW1608HQ□33NPB	33	G、J	45	250	2.7	0.170	680	WHITE
WLCW1608HQ□36NPB	36	G、J	44	250	2.5	0.225	720	RED
WLCW1608HQ□39NPB	39	G、J	48	250	2.45	0.19	680	BLACK
WLCW1608HQ□43NPB	43	G、J	45	250	2.45	0.17	810	ORANGE
WLCW1608HQ□47NPB	47	G、J	47	200	2.3	0.24	680	BROWN
WLCW1608HQ□51NPB	51	G、J	49	200	2.3	0.28	660	BLUE
WLCW1608HQ□56NPB	56	G、J	50	200	2.2	0.3	610	RED
WLCW1608HQ□68NPB	68	G、J	46	200	2	0.33	600	ORANGE
WLCW1608HQ□72NPB	72	G、J	46	150	1.9	0.42	550	YELLOW
WLCW1608HQ□75NPB	75	G、J	46	150	1.9	0.52	500	VIOLET

Walsin Part Number	L (nH)	Tolerance	Q (Min)	Measuring Frequency (MHz)	SRF (GHz) Min	RDC Max ( $\Omega$ )	Rated Current (mA)	Color Code
WLCW1608HQ□82NPB	82	G、J	45	150	1.8	0.46	510	GREEN
WLCW1608HQ□91NPB	91	G、J	45	150	1.65	0.58	440	WHITE
WLCW1608HQ□R10PB	100	G、J	49	150	1.7	0.54	470	BLUE
WLCW1608HQ□R11PB	110	G、J	47	150	1.6	0.58	440	VIOLET
WLCW1608HQ□R12PB	120	G、J	47	150	1.55	0.72	420	GRAY
WLCW1608HQ□R18PB	180	G、J	48	100	1.3	1.5	310	BLACK
WLCW1608HQ□R20PB	200	G、J	47	100	1.25	2	280	GREEN
WLCW1608HQ□R21PB	210	G、J	48	100	1.2	2	280	GRAY
WLCW1608HQ□R22PB	220	G、J	47	100	1.1	2	280	BROWN
WLCW1608HQ□R25PB	250	G、J	45	100	1.05	3	240	VIOLET
WLCW1608HQ□R27PB	270	G、J	46	100	1.05	2.25	260	RED
WLCW1608HQ□R30PB	300	G、J	47	100	0.99	2.8	220	GREEN
WLCW1608HQ□R33PB	330	G、J	46	100	0.93	3.6	180	BLUE
WLCW1608HQ□R36PB	360	G、J	47	100	0.93	4	170	GRAY
WLCW1608HQ□R39PB	390	G、J	47	100	0.88	4	170	YELLOW

※Tolerance : J :  $\pm 5\%$ 、G :  $\pm 2\%$

OPERATING TEMPERATURE :  $-40^{\circ}\text{C} \sim 125^{\circ}\text{C}$

※MSL : LEVEL 1

TEST INSTRUMENT:

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



## RELIABILITY PERFORMANCE

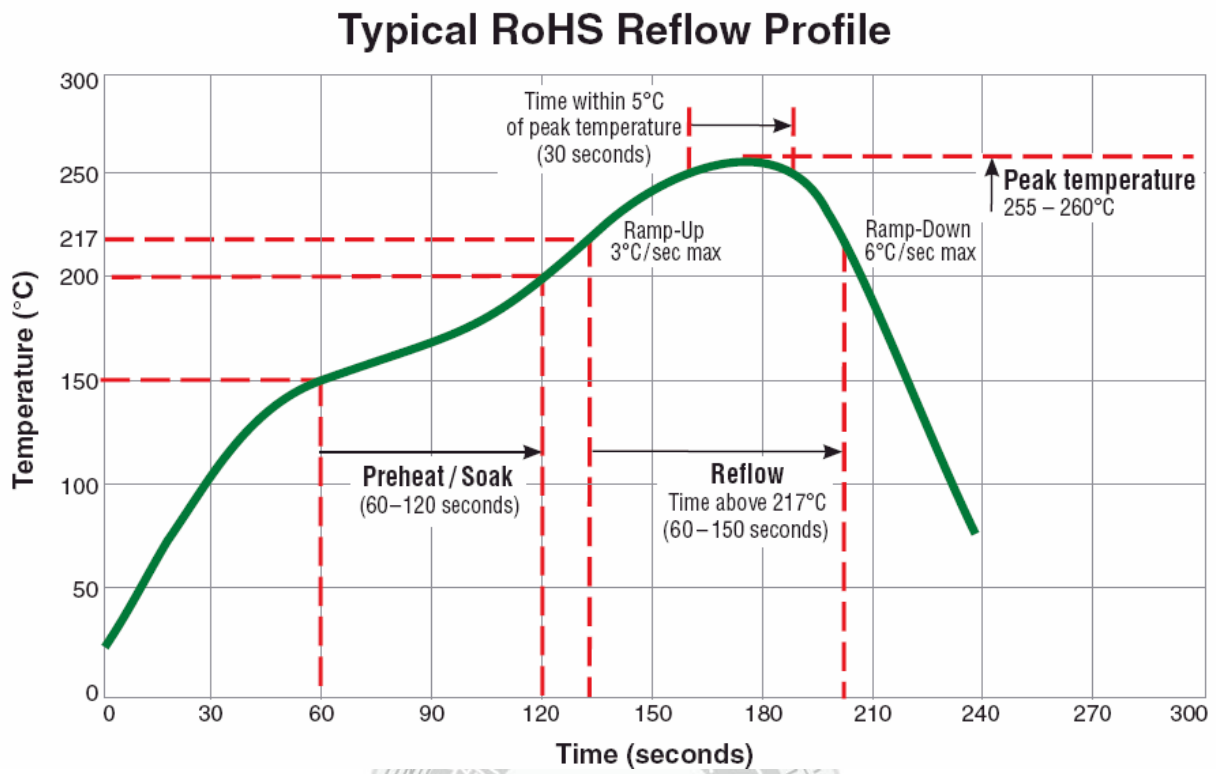
### Reliability Experiment For Electrical

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

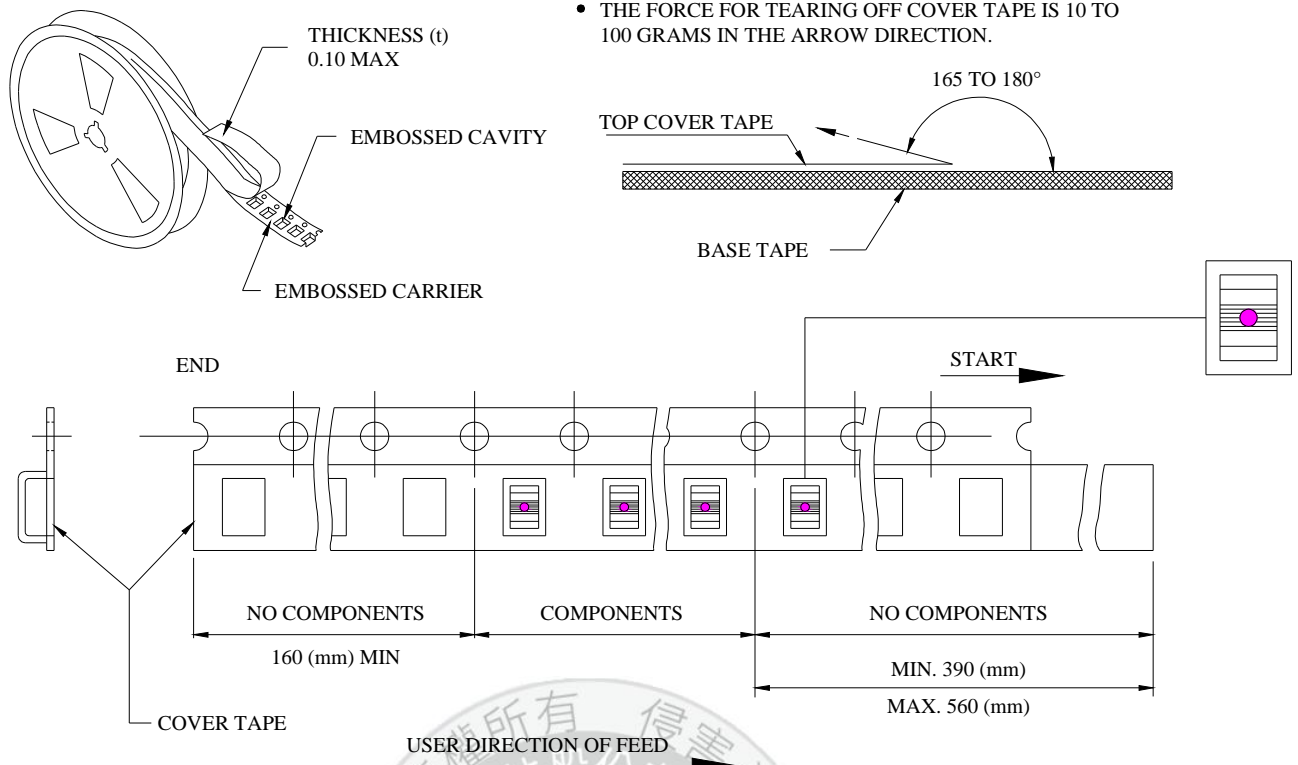
### Reliability Experiment For Physical

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

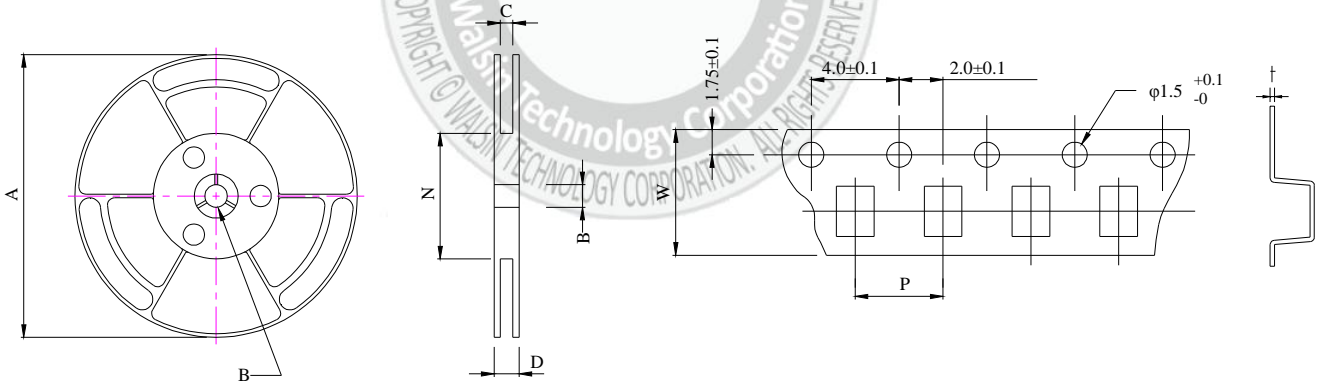


- THE FORCE FOR TEARING OFF COVER TAPE IS 10 TO 100 GRAMS IN THE ARROW DIRECTION.

#### ■ CARRIER TAPE REELS (mm)

MATERIAL: PLASTIC

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



UNIT : mm

	A	B	C	D	N	P	W	t
DIM.	180	13.0	8.4	14.4	50	4.0	8.0	0.25
TOL.	MAX.	+0.5-0.2	+2.0-0	MAX	MIN.	±0.1	±0.2	±0.05

Quantity per reel : 4K pcs