

APPROVAL SHEET

WQCW1608
SMD Wire Wound Ceramic Chip Inductors
AEC-Q200

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

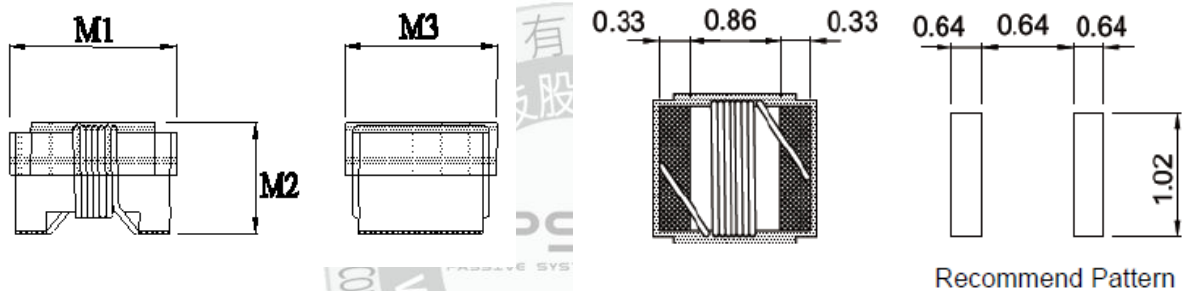
FEATURES

1. Ceramic structure provides high reliability · high productivity
2. Excellence Q and SRF characteristics for RF application
3. Wide range inductance and various tolerance options.
4. RoHS compliant
5. AEC-Q200

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
4. EMI solution in high frequency circuits.
5. Automotive

SHAPE and DIMENSION



Unit: mm

Series	M1	M2	M3
WQCW1608	1.8(MAX)	1.02(MAX)	1.12(MAX)

Ordering Information

WQ	CW	1608	Z0	J	1N6	P	B
Product Code WQ: Inductor AEC-Q200	Series SMD Wire Wound Ceramic Chip inductor.	Dimensions 1.8 * 1.12 mm 1608 :EIA 0603	Series extension Z0	Tolerance G: ± 2% J: ± 5% K: ± 10%	Value 1N6 =1.6nH 12N=12nH R12=120nH =0.12uH	Packing Code P= 7" Plastic Tape	B B:STD

Electrical Characteristics

● WQCW1608 series

Walsin Part Number	L (nH)	Tolerance	Q (Min)	Test Freq. (MHz)	SRF (MHz) Min	RDC Max (Ω)	Irms (mA)	COLOR CODE
WQCW1608Z0□1N6PB	1.6	J、K	24	250	12500	0.03	700	BLACK
WQCW1608Z0□1N8PB	1.8	J、K	16	250	12500	0.045	700	BROWN
WQCW1608Z0□2N1PB	2.1	J、K	20	250	5800	0.05	700	RED
WQCW1608Z0□2N2PB	2.2	J、K	20	250	5800	0.1	700	ORANGE
WQCW1608Z0□3N3PB	3.3	J、K	20	250	5500	0.07	700	VIOLET
WQCW1608Z0□3N6PB	3.6	J、K	22	250	5900	0.063	700	RED
WQCW1608Z0□3N9PB	3.9	J、K	22	250	6900	0.08	700	ORANGE
WQCW1608Z0□4N3PB	4.3	J、K	22	250	5900	0.063	700	YELLOW
WQCW1608Z0□4N7PB	4.7	J、K	20	250	5800	0.116	700	GREEN
WQCW1608Z0□5N1PB	5.1	J、K	20	250	5700	0.14	700	BLUE
WQCW1608Z0□5N6PB	5.6	J、K	15	250	5800	0.15	700	GRAY
WQCW1608Z0□6N1PB	6.1	J、K	25	250	5800	0.11	700	WHITE
WQCW1608Z0□6N8PB	6.8	G、J、K	27	250	5800	0.11	700	VIOLET
WQCW1608Z0□7N5PB	7.5	G、J、K	28	250	4800	0.106	700	GRAY
WQCW1608Z0□8N2PB	8.2	G、J、K	25	250	5800	0.12	700	BLACK
WQCW1608Z0□8N4PB	8.4	G、J、K	28	250	4600	0.109	700	RED
WQCW1608Z0□8N5PB	8.5	G、J、K	28	250	4600	0.109	700	RED
WQCW1608Z0□8N7PB	8.7	G、J	28	250	4600	0.109	700	WHITE
WQCW1608Z0□9N5PB	9.5	G、J	28	250	5400	0.135	700	BLACK
WQCW1608Z0□10NPB	10	G、J	31	250	4800	0.13	700	BROWN
WQCW1608Z0□11NPB	11	G、J	33	250	4000	0.086	700	RED
WQCW1608Z0□12NPB	12	G、J	35	250	4000	0.13	700	ORANGE
WQCW1608Z0□14NPB	14	G、J	35	250	4000	0.17	700	BROWN
WQCW1608Z0□15NPB	15	G、J	35	250	4000	0.17	700	YELLOW
WQCW1608Z0□16NPB	16	G、J	34	250	3300	0.104	700	GREEN
WQCW1608Z0□18NPB	18	G、J	35	250	3100	0.17	700	BLUE
WQCW1608Z0□20NPB	20	G、J	40	250	3000	0.17	700	GREEN
WQCW1608Z0□22NPB	22	G、J	38	250	3000	0.19	700	VIOLET
WQCW1608Z0□23NPB	23	G、J	38	250	2850	0.19	700	BLACK
WQCW1608Z0□24NPB	24	G、J	37	250	2650	0.135	700	GRAY
WQCW1608Z0□27NPB	27	G、J	40	250	2800	0.22	600	WHITE
WQCW1608Z0□30NPB	30	G、J	37	250	2250	0.22	600	BLACK
WQCW1608Z0□33NPB	33	G、J	40	250	2300	0.22	600	BROWN
WQCW1608Z0□36NPB	36	G、J	38	250	2080	0.25	600	RED
WQCW1608Z0□39NPB	39	G、J	40	250	2200	0.25	600	ORANGE
WQCW1608Z0□43NPB	43	G、J	39	250	2000	0.28	600	YELLOW
WQCW1608Z0□47NPB	47	G、J	38	200	2000	0.28	600	GREEN
WQCW1608Z0□51NPB	51	G、J	35	200	1900	0.27	600	BROWN
WQCW1608Z0□56NPB	56	G、J	38	200	1900	0.31	600	BLUE

Walsin Part Number	L (nH)	Tolerance	Q (Min)	Test Freq. (MHz)	SRF (MHz) Min	RDC Max (Ω)	I _{rms} (mA)	COLOR CODE
WQCW1608Z0□62NPB	62	G、J	37	200	1800	0.34	600	GRAY
WQCW1608Z0□68NPB	68	G、J	37	200	1700	0.34	600	VIOLET
WQCW1608Z0□72NPB	72	G、J	34	150	1700	0.49	400	GRAY
WQCW1608Z0□82NPB	82	G、J	34	150	1700	0.54	400	WHITE
WQCW1608Z0□91NPB	91	G、J	30	150	1700	0.5	400	BROWN
WQCW1608Z0□R10PB	100	G、J	34	150	1400	0.58	400	BLACK
WQCW1608Z0□R11PB	110	G、J	32	150	1350	0.61	300	BROWN
WQCW1608Z0□R12PB	120	G、J	32	150	1300	0.65	300	RED
WQCW1608Z0□R13PB	130	G、J	30	150	1400	0.72	300	WHITE
WQCW1608Z0□R15PB	150	G、J	28	150	990	0.92	280	ORANGE
WQCW1608Z0□R18PB	180	G、J	25	100	990	1.25	240	YELLOW
WQCW1608Z0□R20PB	200	G、J	25	100	990	1.98	200	RED
WQCW1608Z0□R22PB	220	G、J	25	100	900	1.9	200	GREEN
WQCW1608Z0□R25PB	250	G、J	25	100	822	3.55	120	YELLOW
WQCW1608Z0□R26PB	260	G、J	25	100	1000	2	200	VIOLET
WQCW1608Z0□R27PB	270	G、J	24	100	900	2.3	170	BLUE
WQCW1608Z0□R33PB	330	G、J	24	100	900	3.9	185	VIOLET
WQCW1608Z0□R39PB	390	G、J	25	100	900	4.35	100	GRAY
WQCW1608Z0□R43PB	430	G、J	25	100	900	5	100	GRAY
WQCW1608Z0□R47PB	470	G、J	25	100	600	5.5	80	WHITE

Tolerance : K : ±10%、J : ±5%、G : ±2%

TEMPERATURE RISE : Below 15°C at Rated Current

Operating Temperature Range. : -40°C ~ +125°C

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

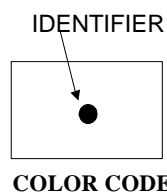
L AND Q MEASURED AN AGILENT 4291B IMPEDANCE ANALYZER WITH AN AGILENT/HP16193A TEST FIXTURE.

SRF MEASURED USING AN AGILENT/HP 5071C NETWORK ANALYZER AND A WTC TEST FIXTURE.

DCR MESASURED USING A MICRO-OHMMETER.

※MSL : LEVEL 1

MARKING



Example: WQCW1608Z0□1N6PB

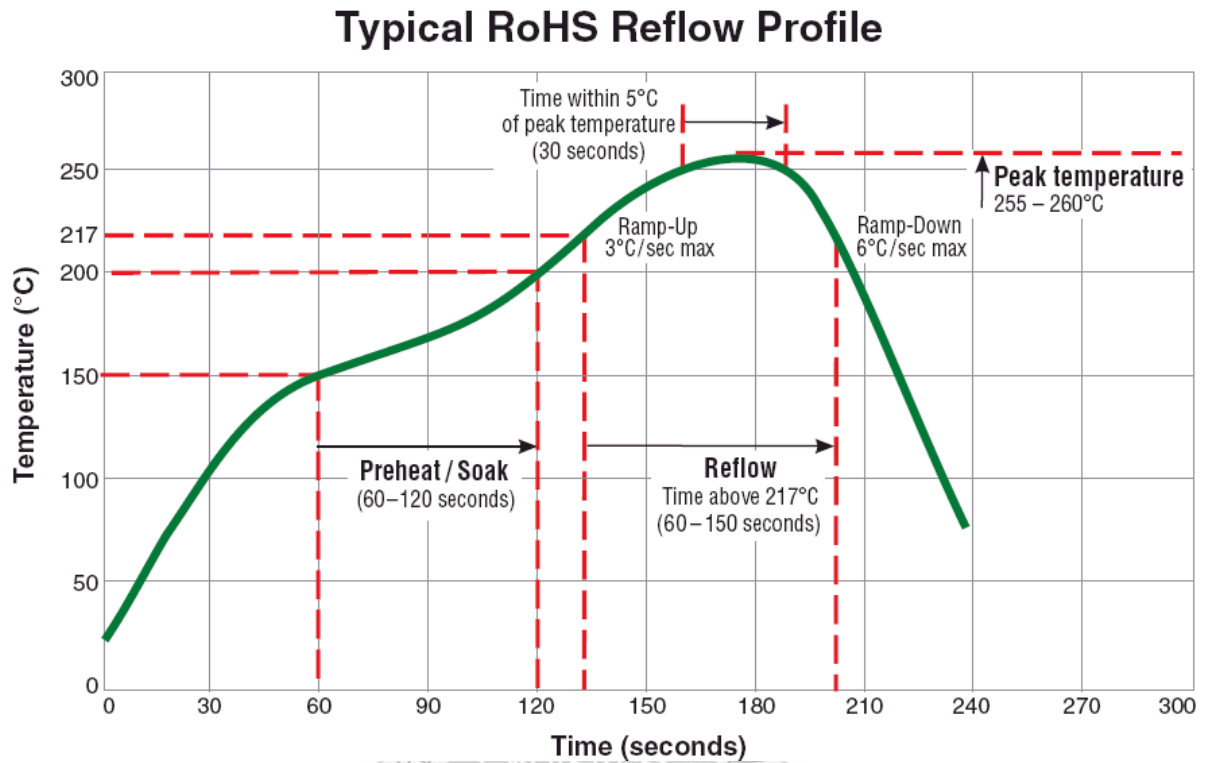
MARKING : BLACK

MARK COLOR CODE IN COMPOSITE SPECIFICATION

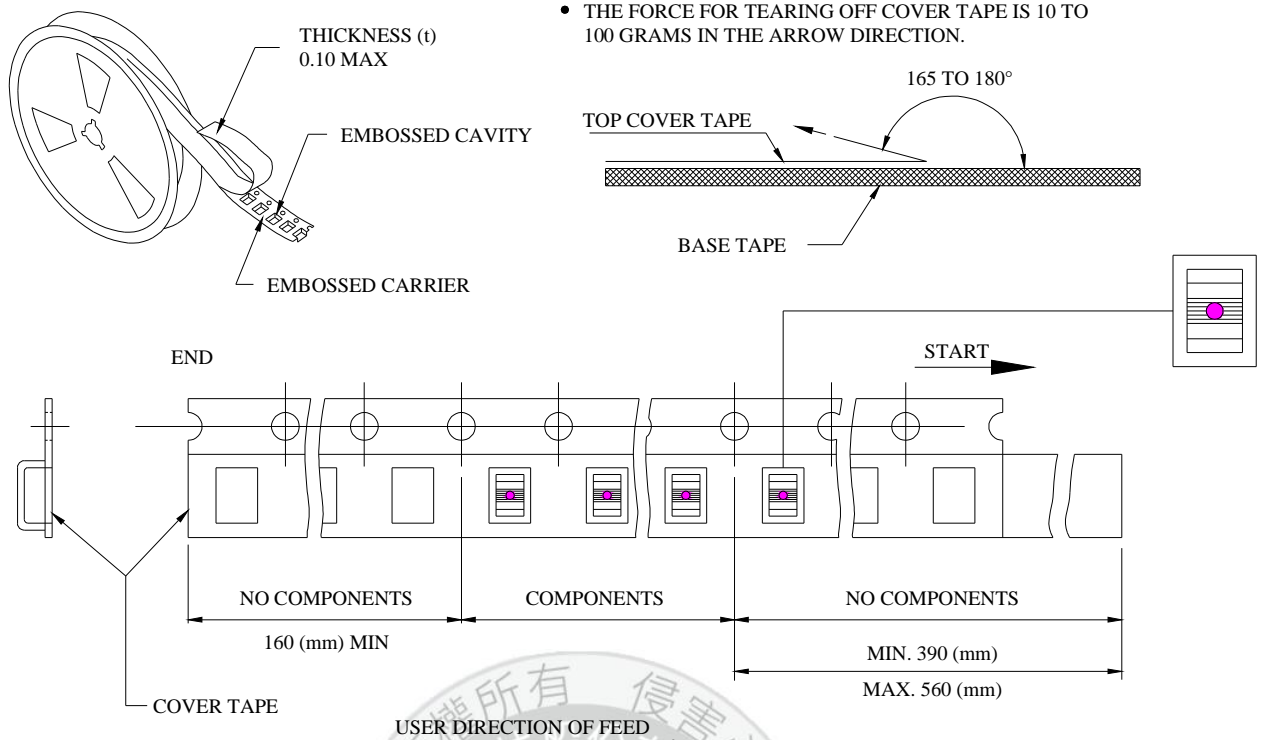
RELIABILITY PERFORMANCE

No.	Item	Test condition	Requirements
1	High Temperature Exposure (Storage)	1000 hrs. at rated operating temperature (e.g. 125°C part can be stored for 1000 hrs. @ 125°C. Same applies for 105°C and 85°C. Unpowered. Measurement at 24±4 hours after test conclusion.	MIL-STD-202 Method 108
2	Temperature Cycle	1000 cycles (-40°C to +125°C). Note: If 85°C part or 105°C part the 1000 cycles will be at that temperature. Measurement at 24±4 hours after test conclusion. 30min maximum dwell time at each temperature extreme. 1 min. maximum transition time.	JESD22 Method JA-104
3	Biased Humidity	1000 hours 85°C/85%RH. Unpowered. Measurement at 24±4 hours after test conclusion.	MIL-STD-202 Method 103
4	Operation Life	1000 hrs. @ 105°C. If 85°C or 125°C part will be tested at that temperature. Measurement at 24±4 hours after test conclusion.	MIL-PRF-27
5	Mechanical Shock	Method 213. Condition C, Peak Value: 100g's, Duration: 6ms, Waveform: Half-sine Velocity Change: 12.3ft/sec	MIL-STD-202 Method 213
6	Vibration	5g's for 20 minutes, 12 cycles each of 3 orientations. Note: Use 8"X5" PCB, .031" thick, 7 secure points on one long side and 2 secure points at corners of opposite sides. Parts mounted within 2" from any secure point. Test from 10-2000 Hz.	MIL-STD-202 Method 204
7	Resistance to Solder Heat	Condition B No pre-heat of samples. Note: Single Wave Solder - Procedure 2 for SMD and Procedure 1 for Leaded with solder within 1.5mm of device body.	MIL-STD-202 Method 210
8	ESD	Passive Component Human Body Model (HBM) Electrostatic Discharge (ESD) Test. Only direct contact discharge, record the voltage value what the sample can pass.	AEC-Q200-002 Or ISO/DIS10605
9	Solderability	For both Leaded & SMD. Electrical Test not required. Magnification 50X. Conditions: Leaded: Method A @ 235°C, category 3. SMD: a) Method B, 4 hrs @ 155°C dry heat @ 235°C b) Method B @ 215°C category 3. c) Method D category 3 @ 260°C.	J-STD-002
10	Flammability	V-0 or V-1 Acceptable	UL-94
11	Board Flex	60 sec minimum holding time.	AEC-Q200-005
12	Terminal Strength (SMD)	Force of 900g for 60 seconds.	AEC-Q200-006

Typical RoHS Reflow Profile



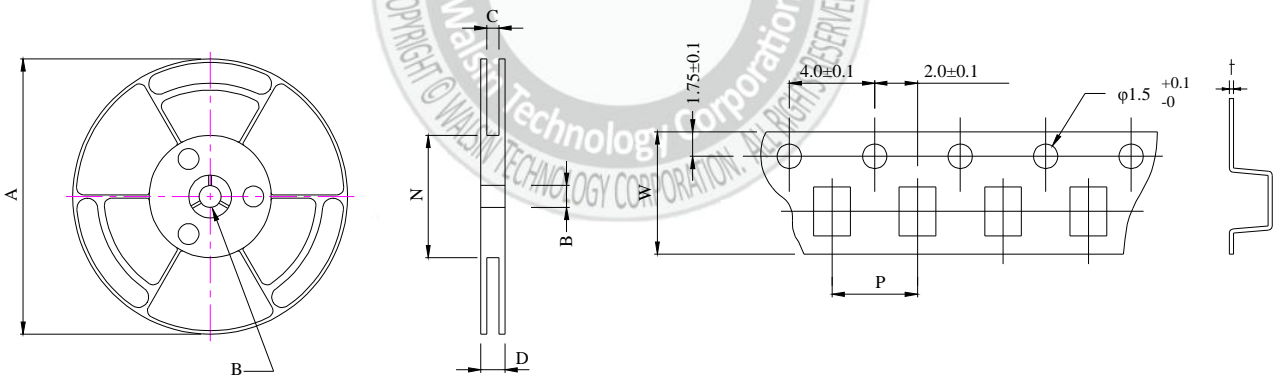
Packaging Specification



■ 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	12.5	50	4.0	8.0	0.25
TOL.	MAX.	± 0.8	$+1.0-0$	MAX	MIN.	± 0.1	± 0.2	± 0.05

Quantity per reel : 4K pcs / reel