

APPROVAL SHEET

WQCW2520
SMD Wire Wound Ceramic Chip Inductors
AEC-Q200



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

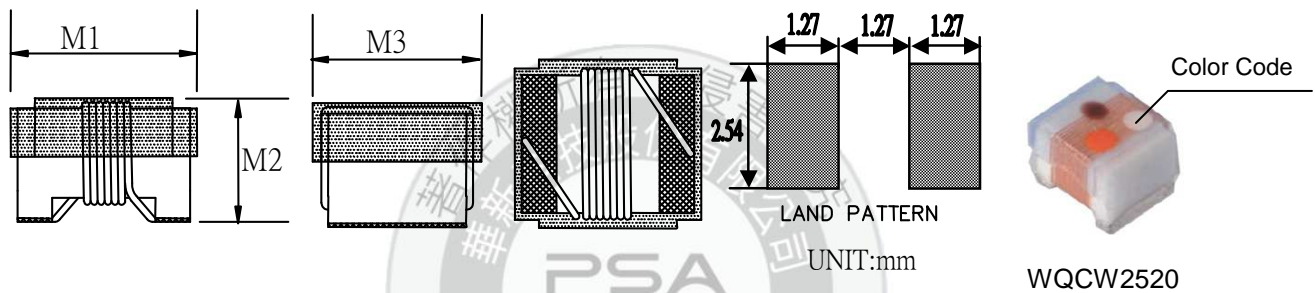
Features

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.
5. AEC-Q200

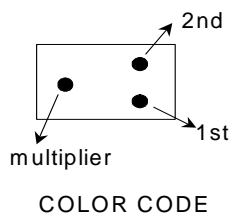
Applications

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. Automotive

Shape and Dimension



Unit: mm



Example : WQCW2520Z0□10NPB
 MARKING : Dots 1 and 2 indicate the inductance in nano Henries.
 (DOTS 1 : BROWN · DOTS 2 : BLACK)
 Dots 3 indicates number of zeroes to be added.
 (DOTS 3 : BLACK)

WQCW Series	M1	M2	M3
2520	2.92(MAX)	2.03(MAX)	2.79(MAX)

Ordering Information

WQ	CW	2520	Z0	J	10N	P	B
Product Code	Series	Dimensions	Series extension	Tolerance	Value	Packing Code	
WQ: Inductor AEC-Q200	SMD Wire Wound Ceramic Chip inductor.	2520 :EIA 1008	Z0:STD	G: ±2% J: ±5% K: ±10%	10N =10nH R12=120nH 2R0=2000nH 120=12000nH	P=7" Reeled (Embossed tape)	B:STD

Electrical Characteristics

Walsin Part Number	L (nH)	Tolerance	Measuring Frequency (MHz)	Q (Min)	Test Freq (MHz)	SRF (GHz) Min	RDC Max (Ω)	I _{rms} (mA)	Color Code		
									1st	2nd	multiplier
WQCW2520Z0□10NPB	10	J、K	50	50	500	4.10	0.08	1000	BROWN	BLACK	BLACK
WQCW2520Z0□12NPB	12	J、K	50	50	500	3.30	0.09	1000	BROWN	RED	BLACK
WQCW2520Z0□15NPB	15	J、K	50	50	500	2.50	0.10	1000	BROWN	GREEN	BLACK
WQCW2520Z0□18NPB	18	G、J、K	50	50	350	2.50	0.11	1000	BROWN	GRAY	BLACK
WQCW2520Z0□22NPB	22	G、J、K	50	55	350	2.40	0.12	1000	RED	RED	BLACK
WQCW2520Z0□24NPB	24	G、J、K	50	50	350	1.90	0.13	1000	RED	YELLOW	BLACK
WQCW2520Z0□27NPB	27	G、J、K	50	55	350	1.60	0.13	1000	RED	VIOLET	BLACK
WQCW2520Z0□33NPB	33	G、J、K	50	60	350	1.60	0.14	1000	ORANGE	ORANGE	BLACK
WQCW2520Z0□39NPB	39	G、J、K	50	60	350	1.50	0.15	1000	ORANGE	WHITE	BLACK
WQCW2520Z0□47NPB	47	G、J、K	50	65	350	1.50	0.16	1000	YELLOW	VIOLET	BLACK
WQCW2520Z0□56NPB	56	G、J、K	50	65	350	1.30	0.18	1000	GREEN	BLUE	BLACK
WQCW2520Z0□68NPB	68	G、J、K	50	65	350	1.30	0.20	1000	BLUE	GRAY	BLACK
WQCW2520Z0□82NPB	82	G、J、K	50	60	350	1.00	0.22	1000	GRAY	RED	BLACK
WQCW2520Z0□R10PB	100	G、J、K	25	60	350	1.00	0.56	650	BROWN	BLACK	BROWN
WQCW2520Z0□R12PB	120	G、J、K	25	60	350	0.950	0.63	650	BROWN	RED	BROWN
WQCW2520Z0□R15PB	150	G、J、K	25	45	100	0.850	0.70	580	BROWN	GREEN	BROWN
WQCW2520Z0□R18PB	180	G、J、K	25	45	100	0.750	0.77	620	BROWN	GRAY	BROWN
WQCW2520Z0□R20PB	200	G、J、K	25	50	100	0.750	0.81	500	RED	BLACK	BROWN
WQCW2520Z0□R22PB	220	G、J、K	25	45	100	0.700	0.84	500	RED	RED	BROWN
WQCW2520Z0□R24PB	240	G、J、K	25	50	100	0.650	0.84	500	RED	YELLOW	BROWN
WQCW2520Z0□R27PB	270	G、J、K	25	45	100	0.600	0.91	500	RED	VIOLET	BROWN
WQCW2520Z0□R30PB	300	G、J、K	25	45	100	0.585	1.05	660	ORANGE	BLACK	BROWN
WQCW2520Z0□R33PB	330	G、J、K	25	45	100	0.570	1.05	450	ORANGE	ORANGE	BROWN
WQCW2520Z0□R36PB	360	G、J、K	25	45	100	0.530	1.05	660	ORANGE	BLUE	BROWN
WQCW2520Z0□R39PB	390	G、J、K	25	45	100	0.500	1.12	470	ORANGE	WHITE	BROWN
WQCW2520Z0□R43PB	430	G、J、K	25	45	100	0.480	1.19	600	YELLOW	ORANGE	BROWN
WQCW2520Z0□R47PB	470	G、J、K	25	45	100	0.450	1.19	470	YELLOW	VIOLET	BROWN
WQCW2520Z0□R56PB	560	G、J、K	25	45	100	0.415	1.33	400	GREEN	BLUE	BROWN
WQCW2520Z0□R62PB	620	G、J、K	25	45	100	0.375	1.40	300	BLUE	RED	BROWN

Walsin Part Number	L (nH)	Tolerance	Measuring Frequency (MHz)	Q (Min)	Test Freq (MHz)	SRF (GHz) Min	RDC Max (Ω)	I _{rms} (mA)	Color Code		
									1st	2nd	multiplier
WQCW2520Z0□R68PB	680	G、J、K	25	45	100	0.375	1.47	400	BLUE	GRAY	BROWN
WQCW2520Z0□R75PB	750	G、J、K	25	45	100	0.360	1.54	360	VIOLET	GREEN	BROWN
WQCW2520Z0□R82PB	820	G、J、K	25	45	100	0.350	1.61	400	GRAY	RED	BROWN
WQCW2520Z0□R91PB	910	G、J、K	25	35	50	0.320	1.68	380	WHITE	BROWN	BROWN
WQCW2520Z0□1R0PB	1000	G、J、K	25	35	50	0.290	1.75	370	BROWN	BLACK	RED
WQCW2520Z0□1R2PB	1200	G、J、K	7.9	35	50	0.250	2.00	310	BROWN	RED	RED
WQCW2520Z0□1R5PB	1500	G、J、K	7.9	28	50	0.200	2.30	330	BROWN	GREEN	RED
WQCW2520Z0□1R8PB	1800	G、J、K	7.9	28	50	0.160	2.60	300	BROWN	GRAY	RED
WQCW2520Z0□2R0PB	2000	G、J、K	7.9	25	50	0.160	2.80	280	RED	BLACK	RED
WQCW2520Z0□2R2PB	2200	G、J、K	7.9	28	50	0.160	2.80	280	RED	RED	RED
WQCW2520Z0□2R7PB	2700	G、J、K	7.9	22	25	0.140	3.20	290	RED	VIOLET	RED
WQCW2520Z0□3R3PB	3300	G、J、K	7.9	22	25	0.110	3.40	290	ORANGE	ORANGE	RED
WQCW2520Z0□3R9PB	3900	G、J、K	7.9	20	25	0.100	3.60	260	ORANGE	WHITE	RED

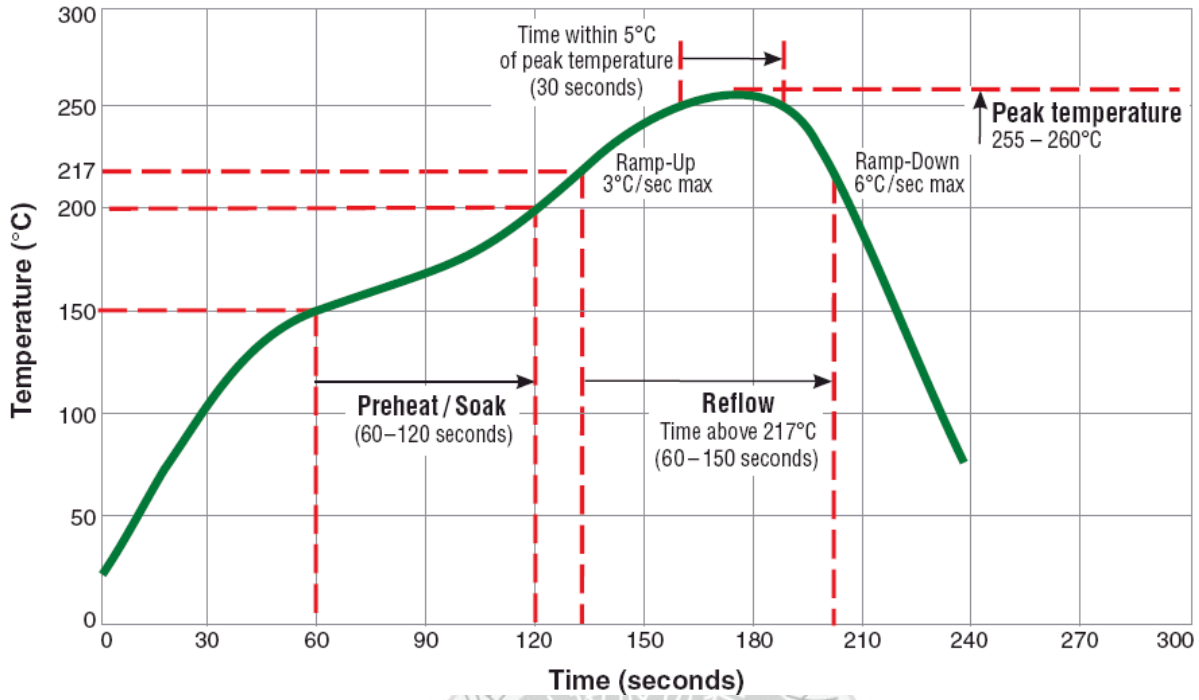
- ◎ TOLERANCE : K = $\pm 10\%$ 、J = $\pm 5\%$ 、G = $\pm 2\%$
- ◎ L AND Q MEASURED AN AGILENT 4291B IMPEDANCE ANALYZER WITH AN AGILENT/HP16193A TEST FIXTURE.
- ◎ SRF MEASURED USING AN AGILENT/HP 5071C NETWORK ANALYZER AND A PDC TEST FIXTURE.
- ◎ DCR MESASURED USING A MICRO-OHMMETER.
- ◎ CURRENT THAT CAUSES A 15°C TEMPERATURE RISE FROM 25°C AMBIENT.
- ◎ ELECTRICAL SPECIFICATIONS AT 25°C.
- ◎ OPERATING TEMPERATURE : -40°C ~ +125°C
- ◎ STORAGE TEMPERATURE COMPONENT: -40°C to +100°C.
TAPE AND REEL PACKAGING: -40°C to +80°C.
- ◎ MEAN TIME BETWEEN FAILURES (MTBF) 1 BILLION HOURS
- ◎ MOISTURE SENSITIVITY LEVEL (MSL) 1 (UNLIMITED FLOOR LIFE AT < 30°C / 85% RELATIVE HUMIDITY)
- ◎ GRAPHIC IS ONLY FOR DIMENSIONALLY APPLICATION.
- ◎ THIS IS A RoHS AND REACH COMPLIANT PRODUCT WHOSE RELATED DOCUMENTSS ARE AVAILABLE ON REQUEST.

RELIABILITY PERFORMANCE

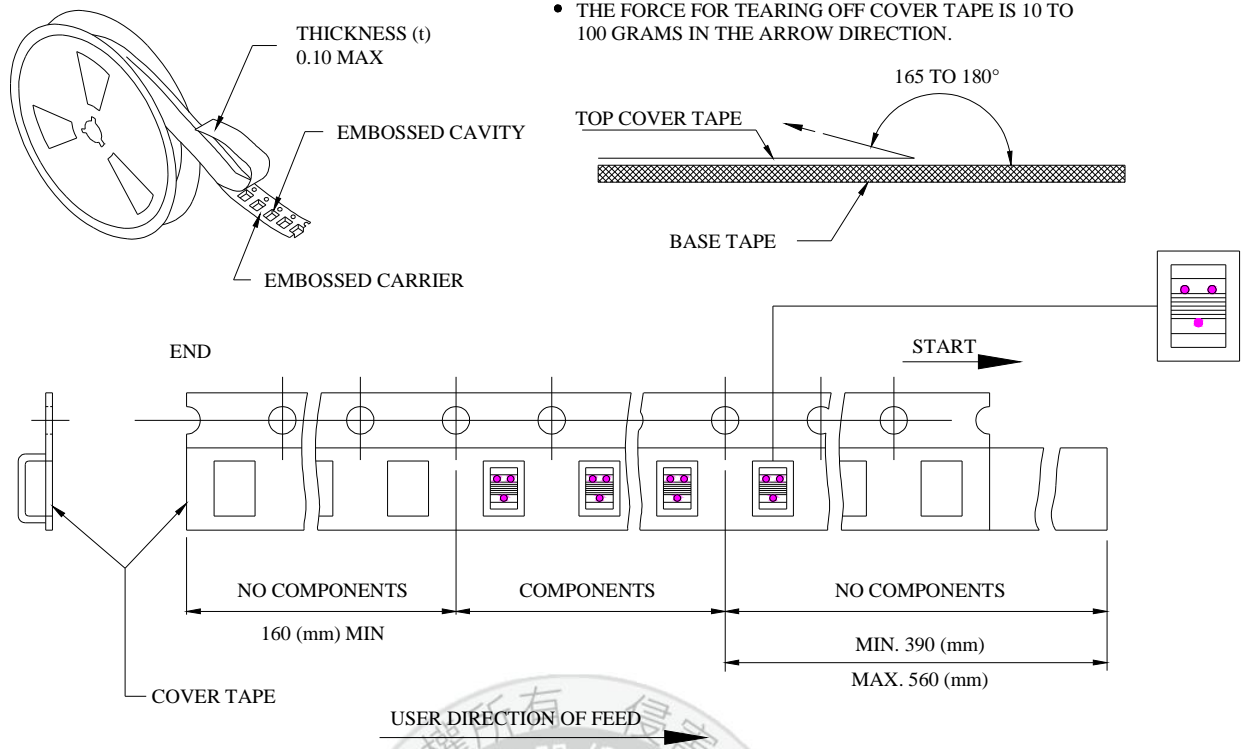
Test Item	Test Condition	Standard Source
High Temperature Exposure (Storage)	1000 hrs. at rated operating temperature (e.g. 125°C part can be stored for 1000 hrs. @ 125°C. Same applies for 105°C and 85°C. Unpowered. Measurement at 24±4 hours after test conclusion.	MIL-STD-202 Method 108
Temperature Cycling	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
Biased Humidity	1000 hours 85°C/85%RH. Unpowered. Measurement at 24±4 hours after test conclusion.	MIL-STD-202 Method 103
Operational 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
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
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
Resistance to Soldering 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
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
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
Flammability	V-0 or V-1 Acceptable	UL-94
Board Flex	60 sec minimum holding time.	AEC-Q200-005
Terminal Strength (SMD)	Force of 1.8kg for 60 seconds.	AEC-Q200-006

Typical RoHS Reflow Profile

Typical RoHS Reflow Profile



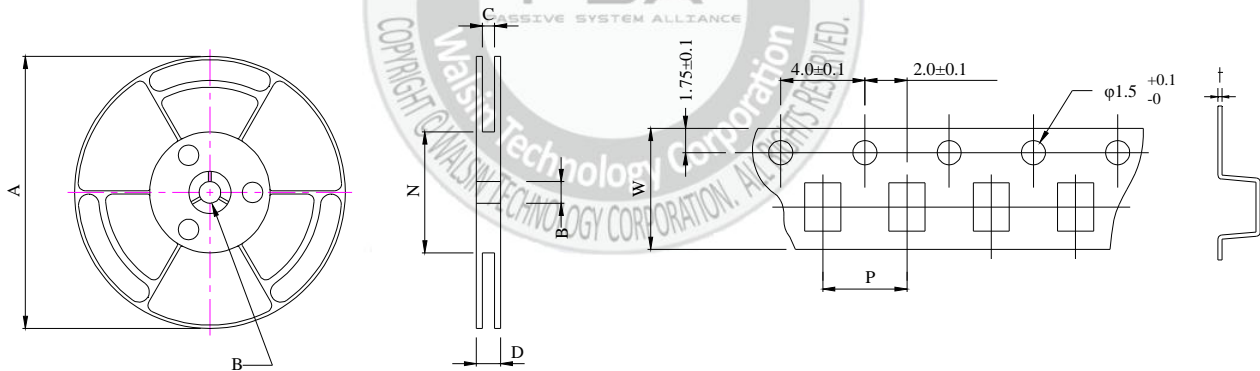
Packaging Specification



■ CARRIER TAPE REELS (mm)

MATERIAL: PLASTIC

■ DIMENSIONS OF CARRIER TAPE (mm)



	A	B	C	D	N	P	W	t
DIM.	178	13.0	8.4	12.5	50	4.0	8.0	0.25
TOL.	±2.0	±0.8	+1.0-0	MAX	MIN	±0.1	±0.2	±0.05

Quantity per reel : 2K pcs