APPROVAL SHEET

WQCW3225
SMD Wire Wound Ceramic Chip Inductors
AEC-Q200

RoHS COMPLIANT

Pb Pb-Free

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

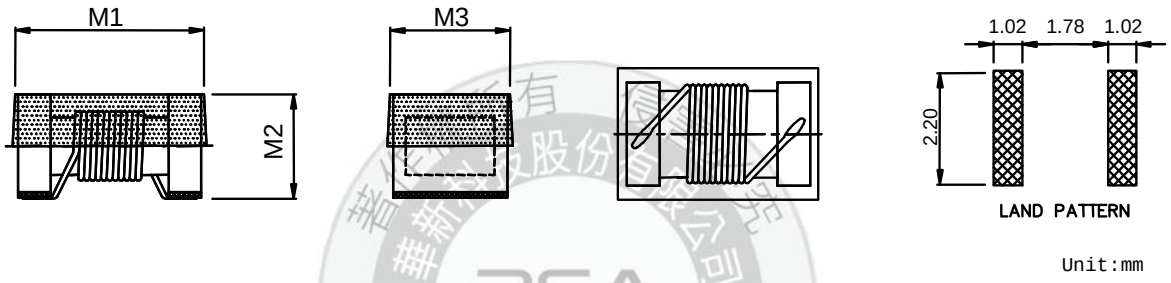
Features

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

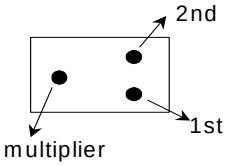
Applications

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

Shape and Dimension



Unit: mm



COLOR CODE

Example : WQCW3225Z0□4N7PB

MARKING : Dots 1 and 2 indicate the inductance in nano Henries.
(DOTS 1：YELLOW，DOTS 2：VIOLET)
Dots 3 indicates number of zeroes to be added.
(DOTS 3：BLACK)

WQCW Series	M1	M2	M3
3225	3.42(MAX)	2.30(MAX)	2.80(MAX)

Ordering Information

WQ	CW	3225	Z0	J	4N7	P	B
Product Code	**Series**	**Dimensions**	**Series extension**	**Tolerance**	**Value**	**Packing Code**	
WQ: Inductor AEC-Q200	SMD Wire Wound Ceramic Chip inductor.	3225 :EIA 1210	Z0:STD	J: ± 5%	4N7 =4.7nH R12 =120nH 2R2 =2200nH 12N =12nH	P=7" Reeled (Embossed tape)	B:STD

Electrical Characteristics

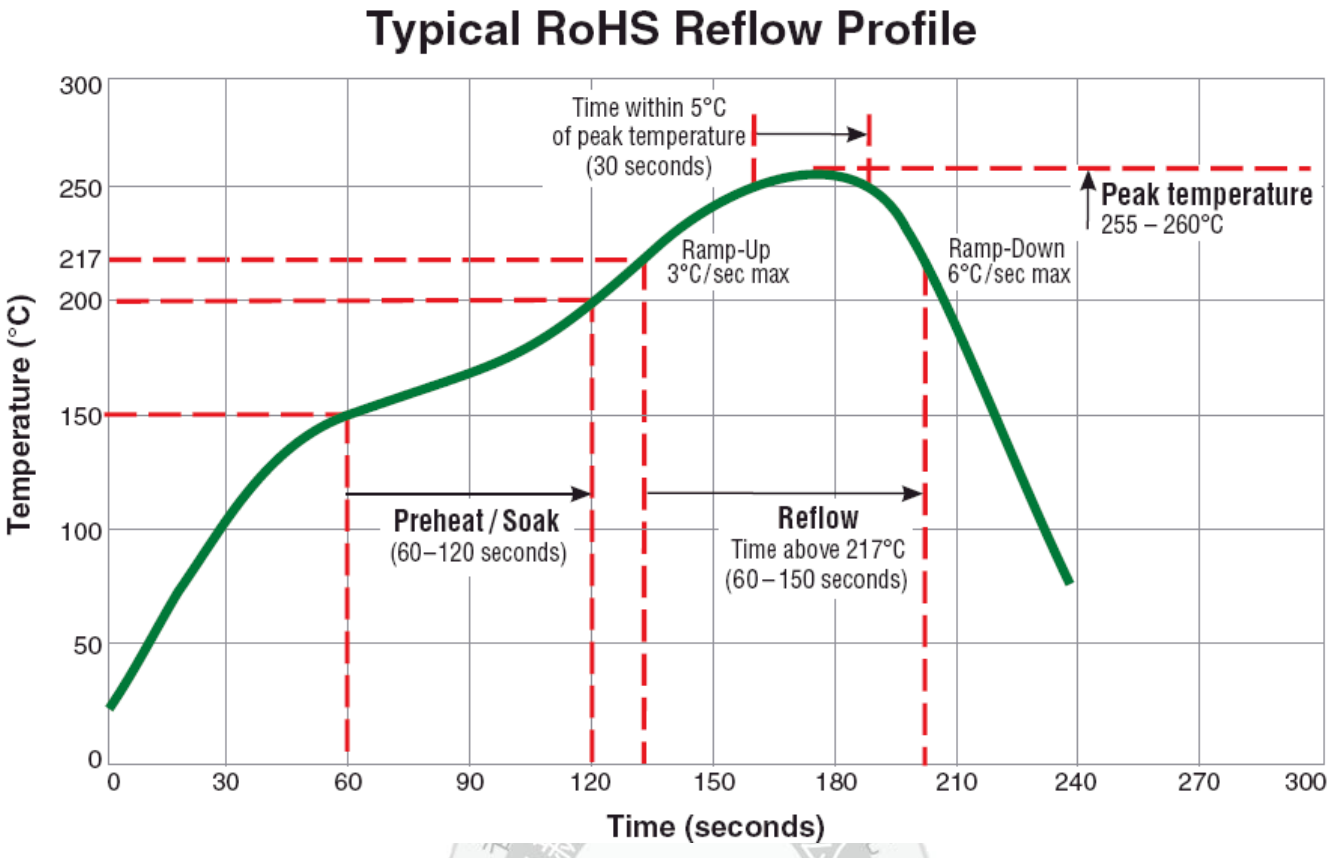
Walsin Part Number	L (nH)	Tolerance	Measuring Frequency (MHz)	Q (Min)	Test Freq (MHz)	SRF (GHz) Min	DCR Max (Ω)	Irms (mA)	Color Code		
									1st	2nd	multiplier
WQCW3225Z0□4N7PB	4.7	J	100	50	1000	6000	0.06	600	Yellow	Violet	Black
WQCW3225Z0□5N6PB	5.6	J	100	50	1000	5500	0.08	600	Green	Blue	Black
WQCW3225Z0□10NPB	10	J	100	60	500	4000	0.06	600	Brown	Black	Brown
WQCW3225Z0□12NPB	12	J	100	60	500	3400	0.06	600	Brown	Red	Brown
WQCW3225Z0□15NPB	15	J	100	60	500	3200	0.06	600	Brown	Green	Brown
WQCW3225Z0□18NPB	18	J	100	60	300	2800	0.06	600	Brown	Gray	Brown
WQCW3225Z0□22NPB	22	J	100	60	300	2300	0.08	600	Red	Red	Brown
WQCW3225Z0□27NPB	27	J	100	60	300	2000	0.08	600	Red	Violet	Brown
WQCW3225Z0□33NPB	33	J	100	60	300	1800	0.08	600	Orange	Orange	Brown
WQCW3225Z0□39NPB	39	J	100	60	300	1800	0.08	600	Orange	White	Brown
WQCW3225Z0□47NPB	47	J	100	60	300	1600	0.08	600	Yellow	Violet	Brown
WQCW3225Z0□56NPB	56	J	100	60	300	1500	0.10	600	Green	Blue	Brown
WQCW3225Z0□68NPB	68	J	100	60	300	1300	0.10	600	Blue	Gray	Brown
WQCW3225Z0□82NPB	82	J	100	60	300	1200	0.10	600	Gray	Red	Brown
WQCW3225Z0□91NPB	91	J	100	60	300	1100	0.10	1000	White	Brown	Brown
WQCW3225Z0□R10PB	100	J	100	60	300	1100	0.10	1000	Brown	Black	Red
WQCW3225Z0□R12PB	120	J	50	60	300	900	0.12	500	Brown	Red	Red
WQCW3225Z0□R15PB	150	J	50	60	300	800	0.18	500	Brown	Green	Red
WQCW3225Z0□R18PB	180	J	50	60	300	760	0.21	500	Brown	Gray	Red
WQCW3225Z0□R22PB	220	J	50	60	300	760	0.27	500	Red	Red	Red
WQCW3225Z0□R27PB	270	J	50	50	300	660	0.33	500	Red	Violet	Red
WQCW3225Z0□R33PB	330	J	50	50	100	650	0.37	500	Orange	Orange	Red
WQCW3225Z0□R36PB	360	J	50	50	100	500	0.63	600	Orange	Blue	Red
WQCW3225Z0□R39PB	390	J	50	50	100	600	0.63	500	Orange	White	Red
WQCW3225Z0□R47PB	470	J	50	50	100	550	0.69	400	Yellow	Violet	Red
WQCW3225Z0□R56PB	560	J	50	50	100	470	0.90	400	Green	Blue	Red
WQCW3225Z0□R68PB	680	J	25	50	100	450	1.05	400	Blue	Gray	Red
WQCW3225Z0□R82PB	820	J	25	50	100	400	1.45	350	Gray	Red	Red
WQCW3225Z0□R91PB	910	J	25	50	100	400	1.45	350	White	Brown	Red
WQCW3225Z0□1R0PB	1000	J	25	45	100	340	2.10	280	Brown	Black	Orange
WQCW3225Z0□1R2PB	1200	J	7.96	45	50	320	2.40	250	Brown	Red	Orange
WQCW3225Z0□1R5PB	1500	J	7.96	45	50	300	2.70	220	Brown	Green	Orange
WQCW3225Z0□1R8PB	1800	J	7.96	45	50	280	3.50	180	Brown	Gray	Orange
WQCW3225Z0□2R2PB	2200	J	7.96	45	50	260	3.80	150	Red	Red	Orange
WQCW3225Z0□3R3PB	3300	J	27	25	27	140	10	150	Orange	Orange	Orange

⦿ TOLERANCE： J = ±5%
⦿ 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℃ TEMPERATURE RISE FROM 25℃ AMBIENT.
⦿ ELECTRICAL SPECIFICATIONS AT 25℃.
⦿ OPERATING TEMPERATURE : -40℃ ~ +125℃.
⦿ Storage temperature Component: –40℃ to +100℃. Tap e and reel packaging: –40℃ to +80℃.
⦿ MEAN TIME BETWEEN FAILURES (MTBF) 1 BILLION HOURS.
⦿ MOISTURE SENSITIVITY LEVEL (MSL) 1 (UNLIMITED FLOOR LIFE AT < 30℃ / 85% RELATIVE HUMIDITY)
⦿ GRAPHIC IS ONLY FOR DIMENSIONALLY APPLICATION.

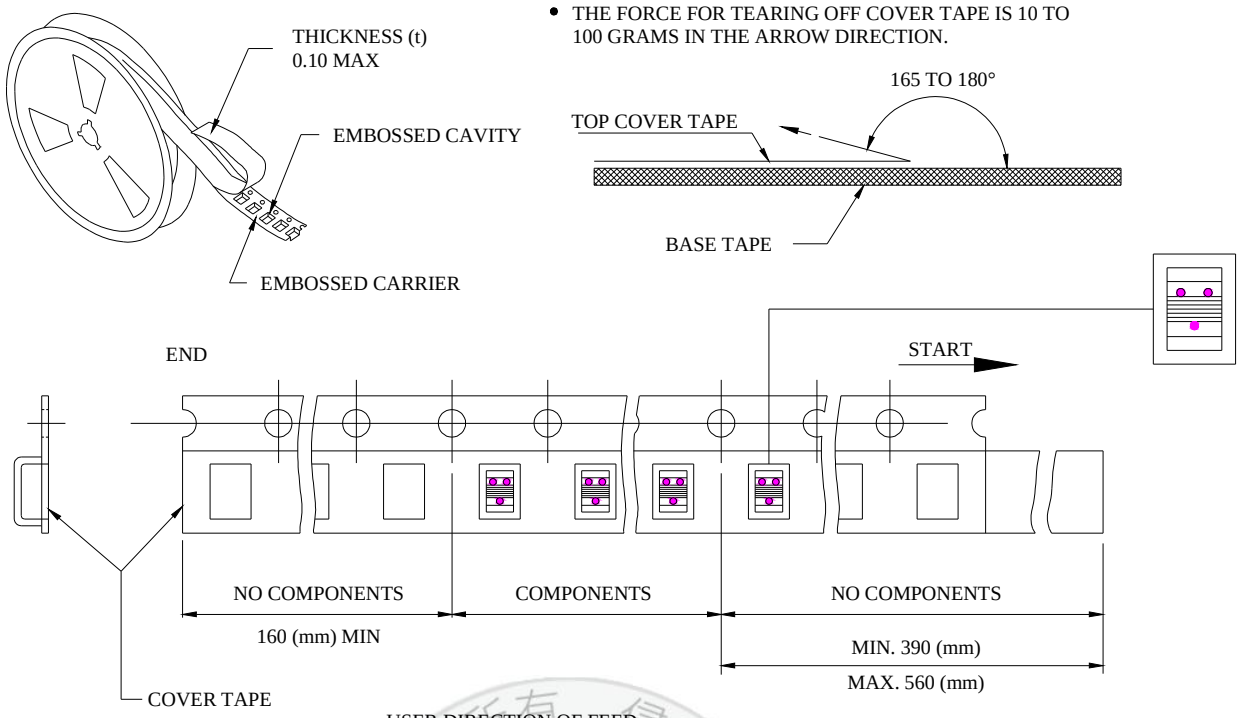
RELIABILITY PERFORMANCE

Test Item	Test Condition	Standard Source
High Temperature Exposure (Storage)	1000 hours. at rated operating temperature (e.g. 125℃ part can be stored for 1000 hours. @ 125℃. Same applies for 105℃ and 85℃. Unpowered. Measurement at 24±4 hours after test conclusion.	MIL-STD-202 Method 108
Temperature Cycling	1000 cycles (-40℃ to +125℃). Note: If 85℃ part o r 105℃ 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℃/85%RH. Unpowered. Measurement at 24±4 hours after test conclusion.	MIL-STD-202 Method 103
Operational Life	1000 hours 105℃. If 85℃ or 125℃ part will be tes ted 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℃, category 3. SMD: a) Method B, 4 hrs @ 155℃ dry heat @ 235℃ b) Method B @ 215℃ category 3. c) Method D category 3 @ 260℃.	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

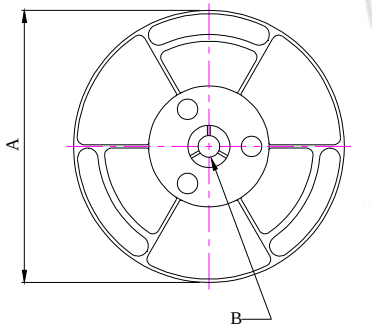


Packaging Specification

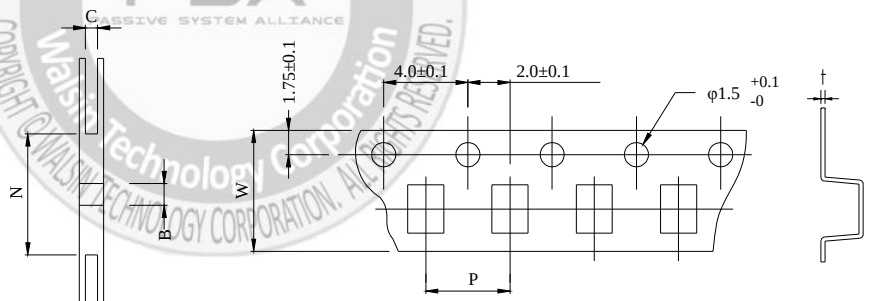


■ CARRIER TAPE REELS (mm)

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：1.5K pcs