APPROVAL SHEET

WQAC291A Series
WQAC291B Series
SMD Air Wound Coil Inductors
AEC-Q200

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

Features

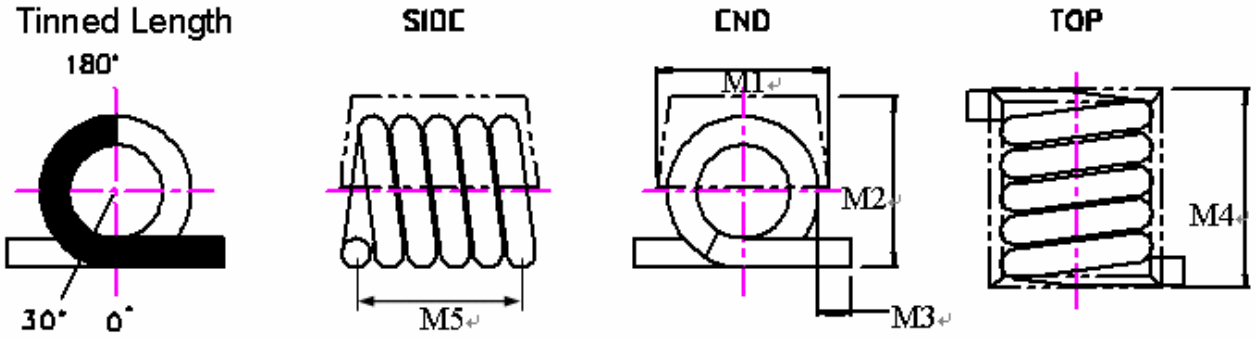
Acrylic jacket(WQAC291) provides a flat top for pick and place

1. Acrylic cap provides a flat top for pick and place mechine for high productive manufacture.
2. Excellent Q and SRF characteristics for RF application, escipally in subGHz band.
3. Narrow tolerance available for precise design requirements.
4. AEC-Q200

Applications

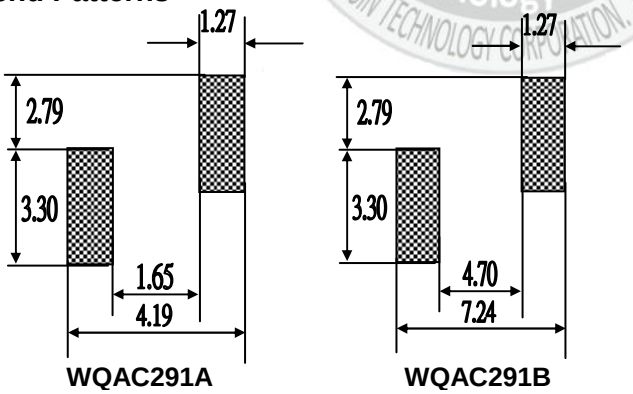
1. Communication system front-end circuit: GSM/3G/LTE, Wi-Fi, GPS.
2. Cabel/Terrestrial/BS Tuner, Bluetooth, Wireless Audio, Remote control.
3. M2M: ZigBee, Proprietary wilreless.
4. EMI solustion in high frequency circuits.
5. Automotive

Shape and Dimension



TINNED LENGTH BETWEEN 30° AND 180°

Recommend Patterns



WQAC291A

WQAC291B

Unit: mm

WQAC Series	M1	M2	M3	M4	M5
291A	3.05 (Max)	3.18 (Max)	0.58±0.38	3.68 (Max)	2.92±0.25
291B	3.05 (Max)	3.18 (Max)	0.58±0.38	6.86 (Max)	5.84±0.25

Ordering Information

WQ	AC	291A	Z0	K	T01	P	B
Product Code WQ: Inductor AEC-Q200	**Series** Air wound coil inductor.	**Dimensions** 291A 291B	**Series Extension** Z0:STD	**Tolerance** G: ± 2% J: ± 5% K: ± 10%	**Turns** T01=1 Turns T03=3 Turns T10=10 Turns	**Packing Code** P=7" Reeled (Embossed reel)	B:STD

Electrical Characteristics

● WQAC291A series

Walsin Part Number	L(nH)	Tolerance	Turns	Q Min	Typical Q @ Frequency (MHz)	SRF Typical (GHz)	RDC Maximum (mΩ)	Rated Current (A)
WQAC291AZ0□T01PB	2.5	K	1	145	150	12.5	1.1	4.0
WQAC291AZ0□T02PB	5.0	G,J	2	140	150	6.5	1.8	4.0
WQAC291AZ0□T03PB	8.0	G,J	3	140	150	5.0	2.6	4.0
WQAC291AZ0□T04PB	12.5	G,J	4	137	150	3.3	3.4	4.0
WQAC291AZ0□T05PB	18.5	G,J	5	132	150	2.5	3.9	4.0

● WQAC291B series

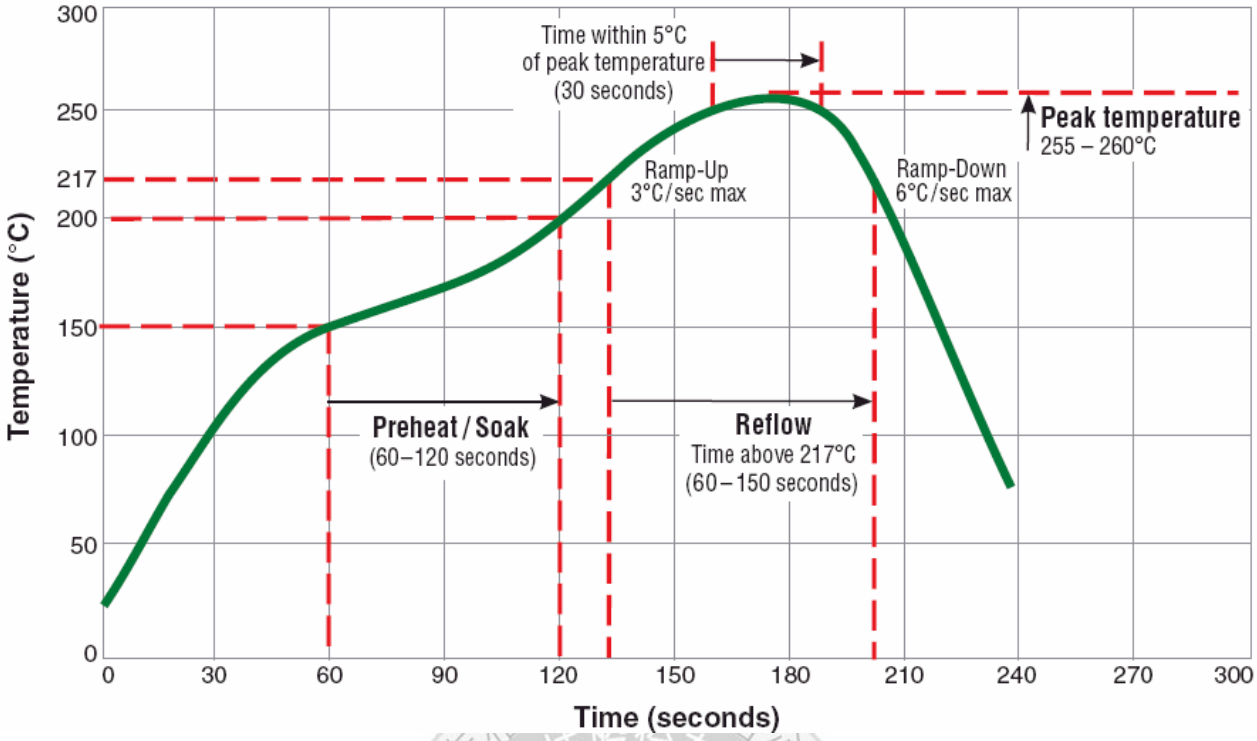
Walsin Part Number	L(nH)	Tolerance	Turns	Q Min	Typical Q @ Frequency (MHz)	SRF Typical (GHz)	RDC Maximum (mΩ)	Rated Current (A)
WQAC291BZ0□T06PB	17.5	G,J	6	100	150	2.2	4.5	4.0
WQAC291BZ0□T07PB	22.0	G,J	7	102	150	2.1	5.2	4.0
WQAC291BZ0□T08PB	28.0	G,J	8	105	150	1.8	6.0	4.0
WQAC291BZ0□T09PB	35.5	G,J	9	112	150	1.5	6.8	4.0
WQAC291BZ0□T10PB	43.0	G,J	10	106	150	1.2	7.9	4.0

⊙ TOLERANCE：G＝±2%、J＝±5%、K＝±10%
⊙ 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℃ ~ +150℃
⊙ STORAGE TEMPERATURE COMPONENT: –40℃ to +100℃. TAPE AND REEL PACKAGIN G: –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.
⊙ THIS IS A RoHS AND REACH COMPLLIANT PRODUCT WHOSE RELATED DOCUMENTSS ARE AVAILABLE ON REQUEST.

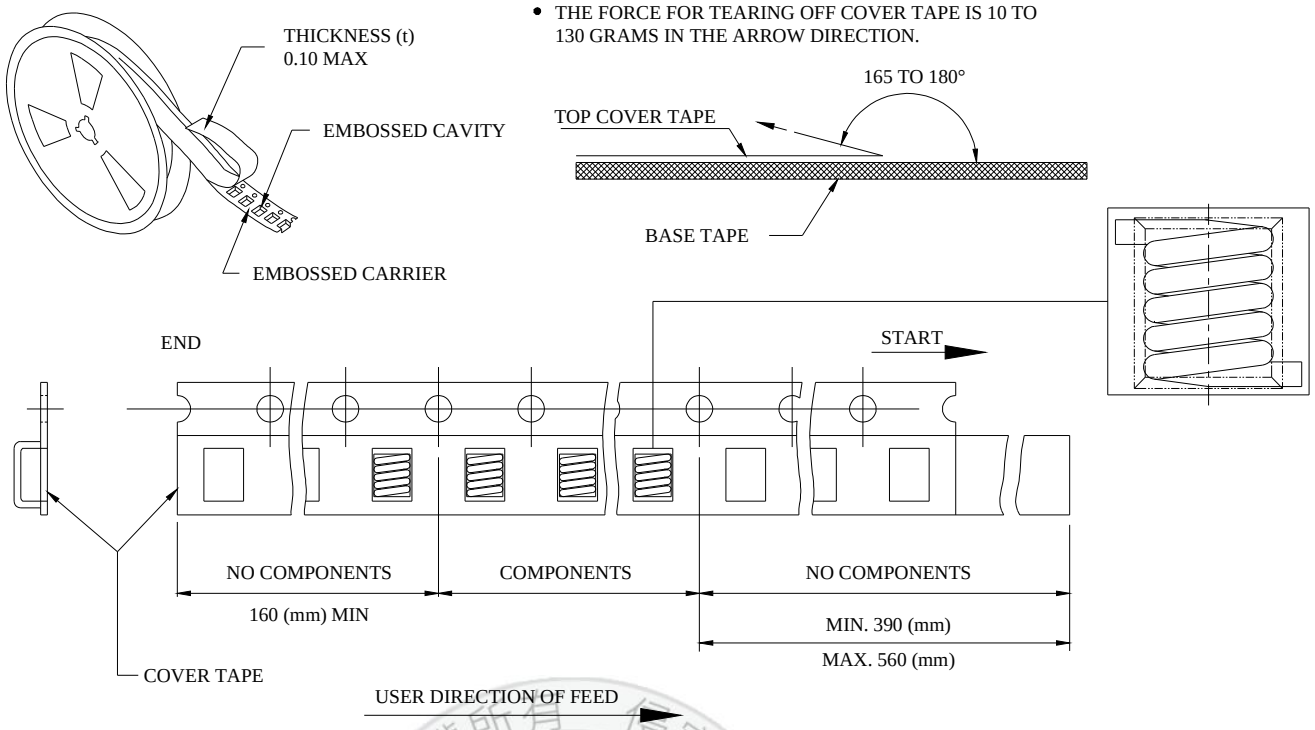
RELIABILITY PERFORMANCE

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℃. 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 hrs. @ 105℃. If 85℃ or 125℃ 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℃, 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

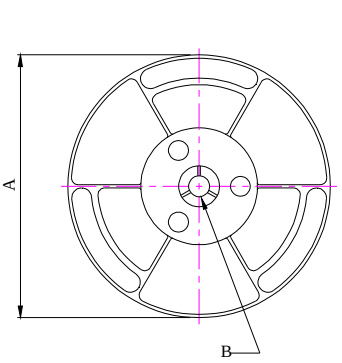


Packaging Specification

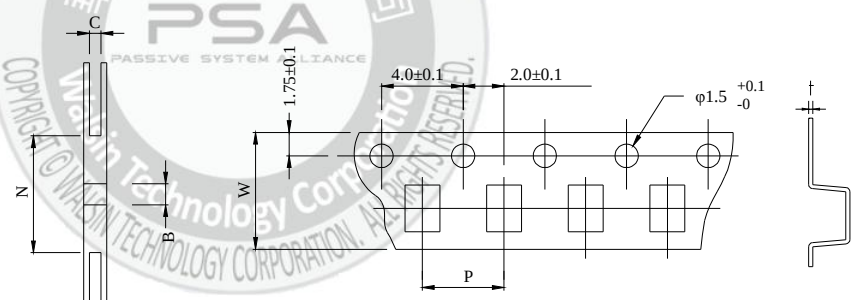


■ CARRIER TAPE REELS (mm)

MATERIAL: PLASTIC



■ DIMENSIONS OF CARRIER TAPE (mm)



UNIT:mm

291A	A	B	C	D	N	P	W	t
DIM.	178	15	12.5	16.4	75	8	12	0.25
TOL.	±2.0	±0.5	+1.5-0	+1.5-0	±2.0	±0.1	±0.2	±0.05

291B	A	B	C	D	N	P	W	t
DIM.	178	15	16.5	20.4	75	8	16	0.25
TOL.	±2.0	±0.5	+1.5/-0	+1.5/-0	±2.0	±0.1	±0.2	±0.05

Quantity per reel：500 pcs