


APPROVAL SHEET



WQAC294A Series
SMD Air Wound Coil Inductors
AEC-Q200

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

Features

Acrylic jacket(WQAC294) provides a flat top for pick and place

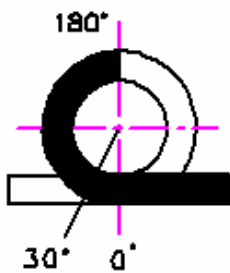
1. Acrylic cap provides a flat top for pick and place machine for high productive manufacture.
2. Excellent Q and SRF characteristics for RF application, especially in subGHz band.
3. Narrow tolerance available for precise design requirements.
4. AEC-Q200

Applications

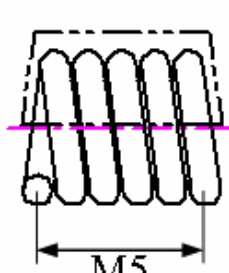
1. Communication system front-end circuit: GSM/3G/LTE, Wi-Fi, GPS.
2. Cabel/Terrestrial/BS Tuner, Bluetooth, Wireless Audio, Remote control.
3. M2M: ZigBee, Proprietary wireless.
4. EMI solution in high frequency circuits.
5. Automotive

Shape and Dimension

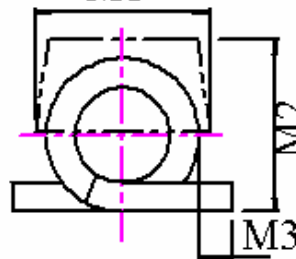
Tinned Length



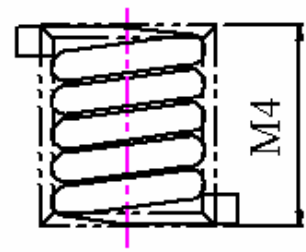
SIDE



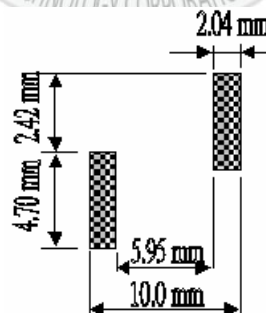
END



TOP



Recommend Patterns



Unit: mm

Land Pattern

WQAC Series	M1	M2	M3	M4	M5
294A	6.35(Max)	5.9(Max)	1.02 ±0.39	10.55(Max.)	7.98±0.51

Ordering Information

WQ	AC	294A	Z0	J	T09	L	B
Product Code WQ: Inductor AEC-Q200	Series Air wound coil inductor.	Dimensions 294A	Series Extension Z0:STD	Tolerance G: ± 2% J: ± 5% K: ± 10%	Value T09 = 9 Turns T15 = 15 Turns	Packing Code L=13" Reeled (Embossed reel)	B:STD

Electrical Characteristics

● WQAC294A series

Walsin Part Number	Turns	L(nH)	Tolerance	Q Min	Q Min @ Freq (MHz)	SRF Maximum (MHz)	RDC Maximum (mΩ)	Rated Current Maximum (A)
WQAC294AZ0□T09LB	9	90	G、J、K	95	50	1140	15	3.5
WQAC294AZ0□T10LB	10	111	G、J、K	87	50	1020	15	3.5
WQAC294AZ0□T11LB	11	130	G、J、K	87	50	900	20	3.0
WQAC294AZ0□T12LB	12	169	G、J、K	95	50	875	25	3.0
WQAC294AZ0□T13LB	13	206	G、J、K	95	50	800	30	3.0
WQAC294AZ0□T14LB	14	222	G、J、K	92	50	730	35	3.0
WQAC294AZ0□T15LB	15	246	G、J、K	95	50	685	35	3.0
WQAC294AZ0□T16LB	16	307	G、J、K	95	50	660	35	3.0
WQAC294AZ0□T17LB	17	380	G、J、K	95	50	590	50	2.5
WQAC294AZ0□T18LB	18	422	G、J、K	95	50	540	60	2.5
WQAC294AZ0□T19LB	19	491	G、J、K	95	50	535	65	2.0
WQAC294AZ0□T20LB	20	538	G、J、K	87	50	490	90	2.0

TOLERANCE : G=±2%, J=±5%, K=±10%

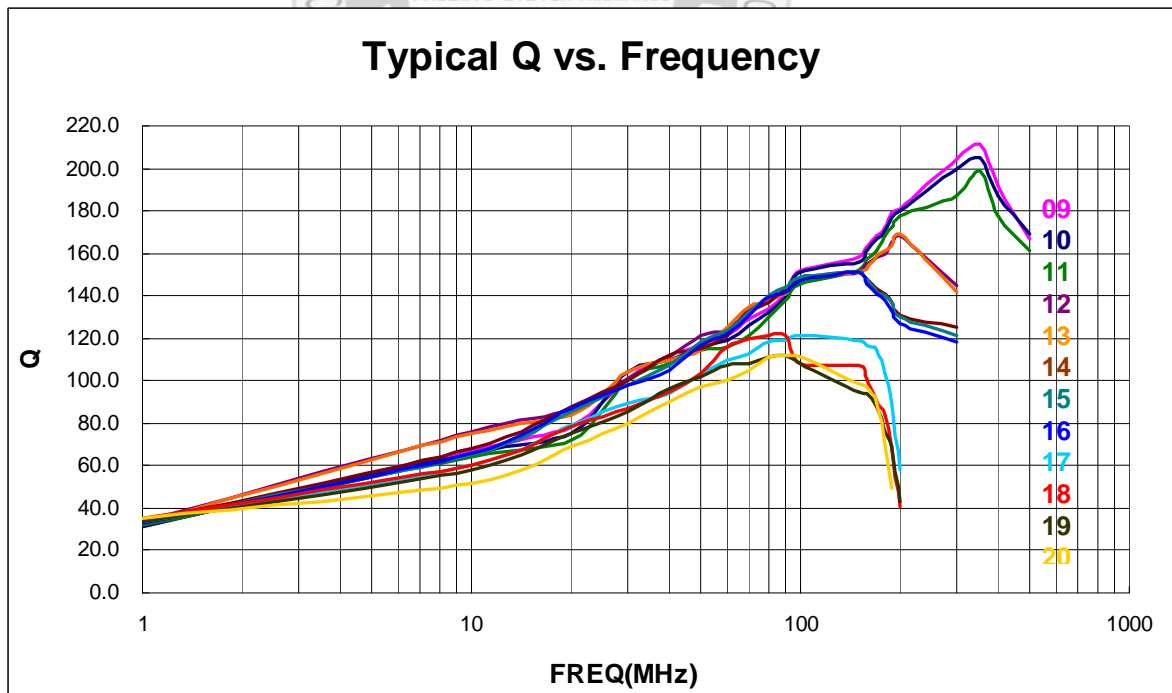
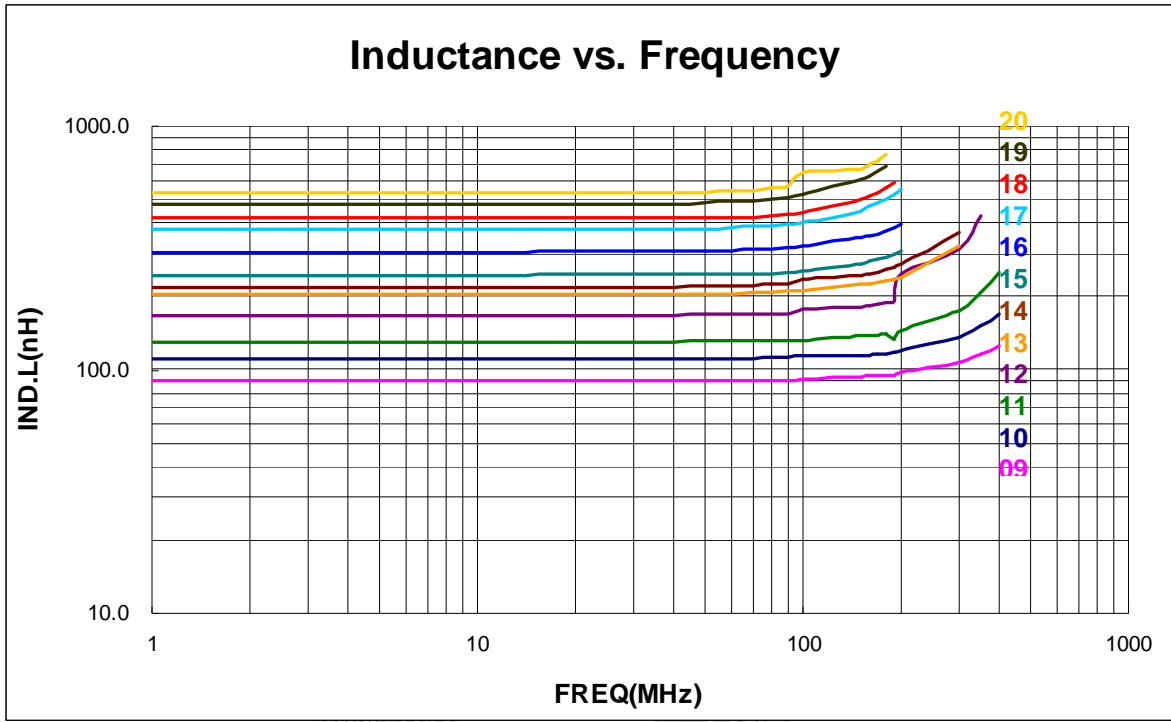
※TEST INSTRUMENT: HP4291B、FIXTURE HP16193A、HP8753E、CHROMA16502

NOTE :

1. Inductance & SRF measured on the HP4291B. With HP16193 test fixture.
2. Operating temp. : -40°C to +125°C
3. For temperature rise : 15°C
4. SRF measured using the HP8753E
5. MSL : LEVEL 1

Characteristic Curve

● WQAC294A series

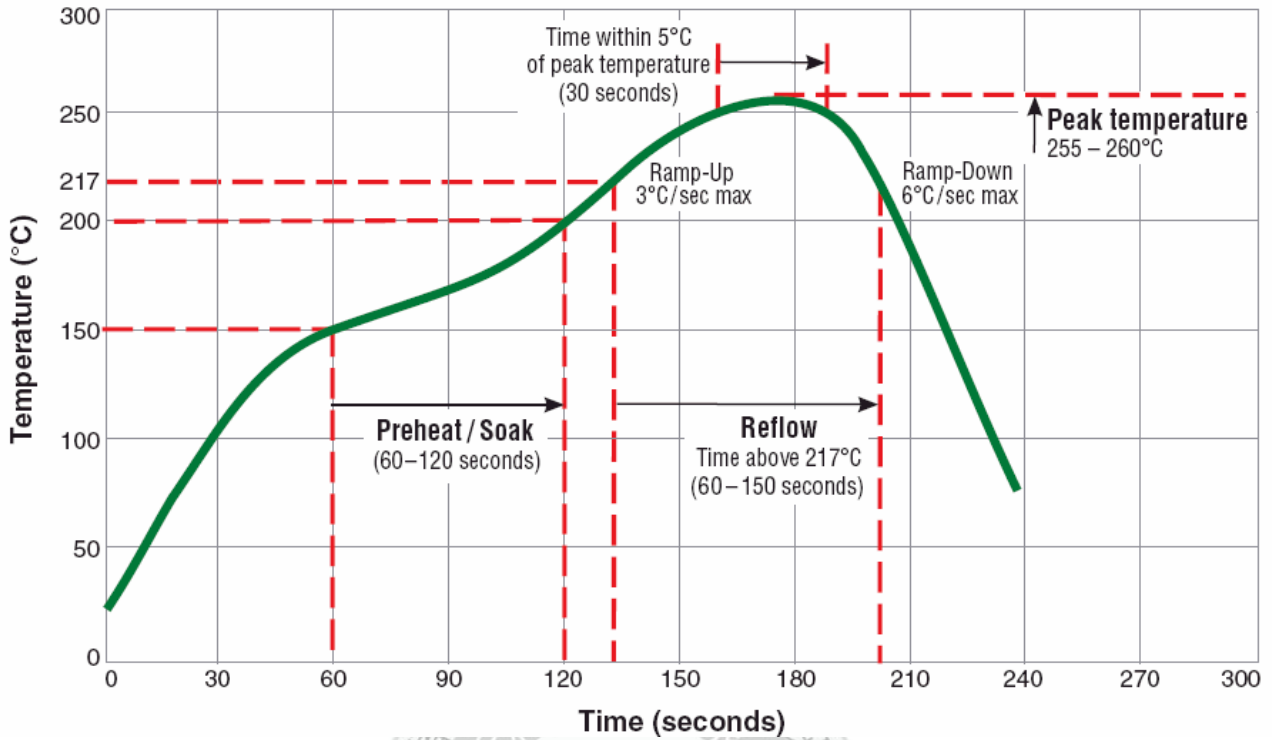


RELIABILITY PERFORMANCE

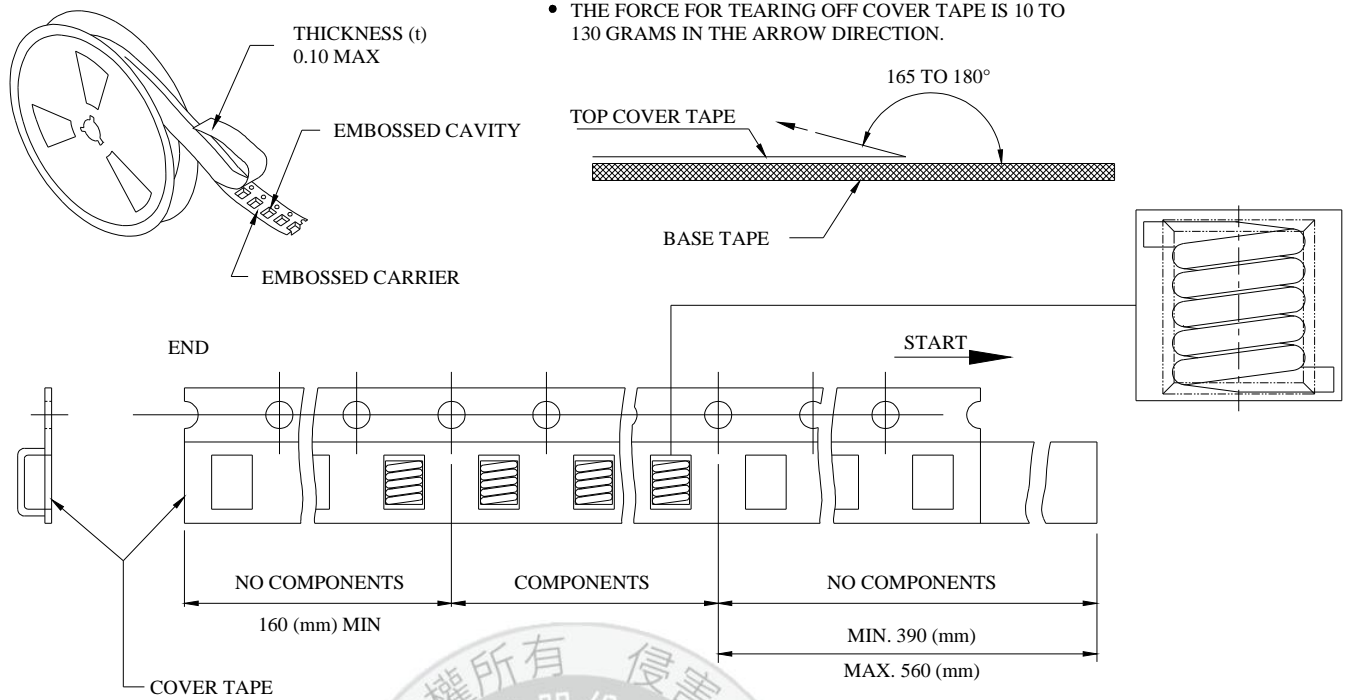
Test Item	Test Condition	Standard Source
High Temperature Exposure (Storage)	1000 hrs. at rated operating temperature (e.g. 125°C part can be stored for 1000 hrs. @ 125°C. Same applies for 105°C and 85°C. Unpowered. Measurement at 24±4 hours after test conclusion.	MIL-STD-202 Method 108
Temperature Cycling	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



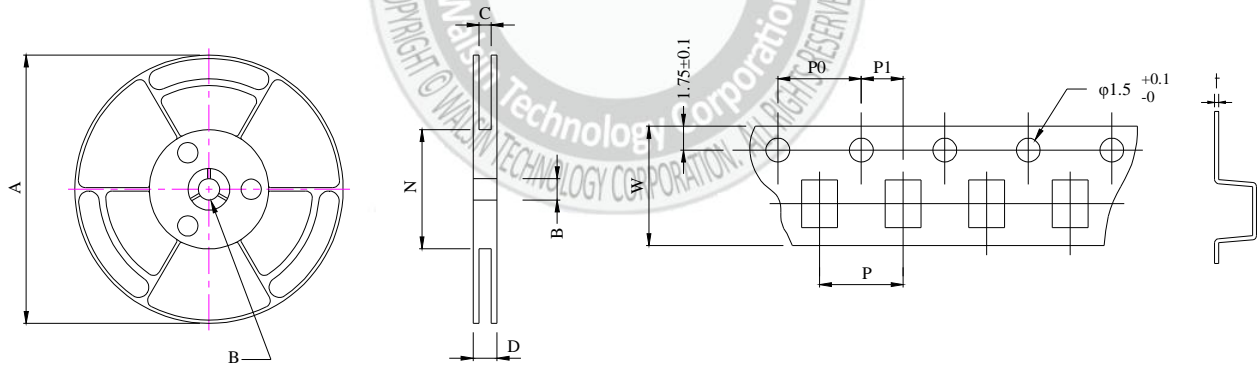
Packaging Specification



■ CARRIER TAPE REELS (mm)

MATERIAL: PLASTIC

■ DIMENSIONS OF CARRIER TAPE (mm)



UNIT: mm

	A	B	C	D	N	W	P	P0	P1	t
DIM.	340	13.0	24.5	30.4	100	24.0	12.0	4.0	2.0	0.35
TOL.	MAX	±0.5	±0.5	±0.5	REF	±0.30	±0.10	±0.10	±0.10	±0.05

Quantity per reel : 1K pcs