

# APPROVAL SHEET



**WQAC293A Series**  
**SMD Air Wound Coil Inductors**  
**AEC-Q200**

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

## Features

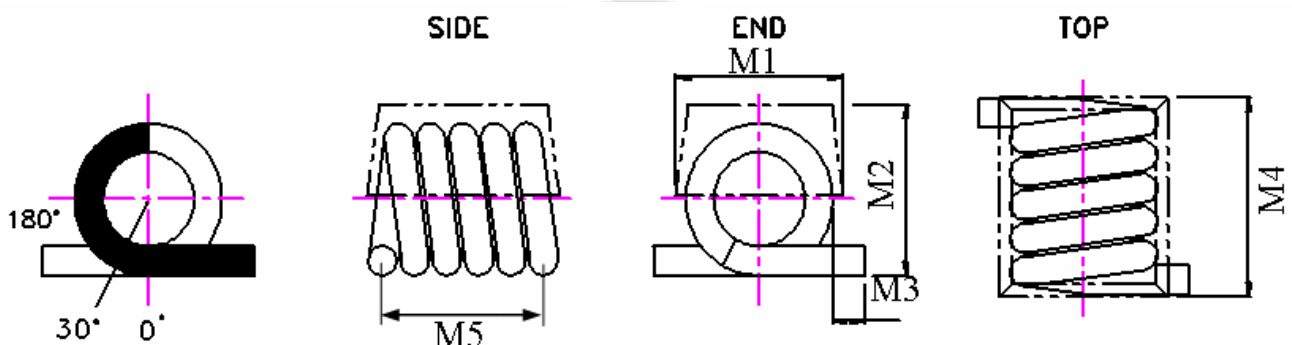
### Acrylic jacket(WQAC293) provides a flat top for pick and place

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

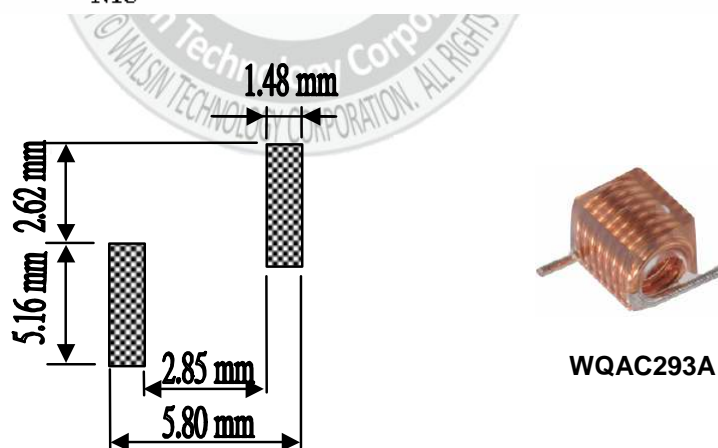
## Applications

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



## Recommend Patterns



Unit: mm

## Land Pattern

WQAC Series	M1	M2	M3	M4	M5
293A	3.81(Max)	4.2 (Max.)	1.53±0.39	4.83(Max.)	4.32±0.39

## Ordering Information

WQ	AC	293A	Z0	K	22N	L	B
<b>Product Code</b> WQ: Inductor AEC-Q200	<b>Series</b>  Air wound coil inductor.	<b>Dimensions</b>  293A	<b>Series Extension</b>  Z0:STD	<b>Tolerance</b>  G: ± 2% J: ± 5% K: ± 10%	<b>Value</b>  22N=22nH R10=100nH	<b>Packing Code</b>  L=13" Reeled (Embossed reel)	<b>B:STD</b>

## Electrical Characteristics

### ● WQAC293A series

Walsin Part Number	L(nH)	Tolerance	Q Min	Typical Q @ Frequency (MHz)	SRF Maximum (GHz)	RDC Maximum (mΩ)	Rated Current Maximum (A)
WQAC293AZ0□22NLB	22	G、J、K	100	150	3.2	4.2	3.0
WQAC293AZ0□27NLB	27	G、J、K	100	150	2.7	4.0	3.5
WQAC293AZ0□33NLB	33	G、J、K	100	150	2.5	4.8	3.0
WQAC293AZ0□39NLB	39	G、J、K	100	150	2.1	4.4	3.0
WQAC293AZ0□47NLB	47	G、J、K	100	150	2.1	5.6	3.0
WQAC293AZ0□56NLB	56	G、J、K	100	150	1.5	6.2	3.0
WQAC293AZ0□68NLB	68	G、J、K	100	150	1.5	8.2	2.5
WQAC293AZ0□82NLB	82	G、J、K	100	150	1.3	9.4	2.5
WQAC293AZ0□R10LB	100	G、J、K	100	150	1.2	12.3	1.7
WQAC293AZ0□R12LB	120	G、J、K	100	150	1.1	17.3	1.5

TOLERANCE : G=±2%, J=±5%, K=±10%

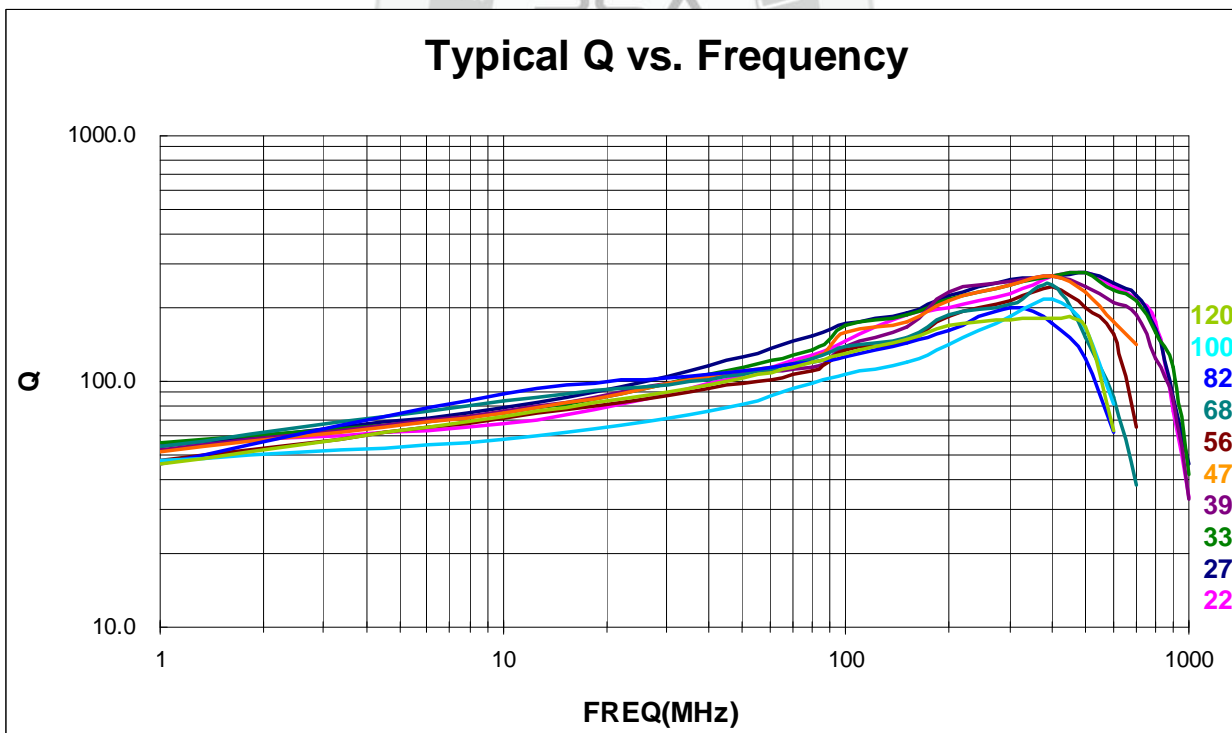
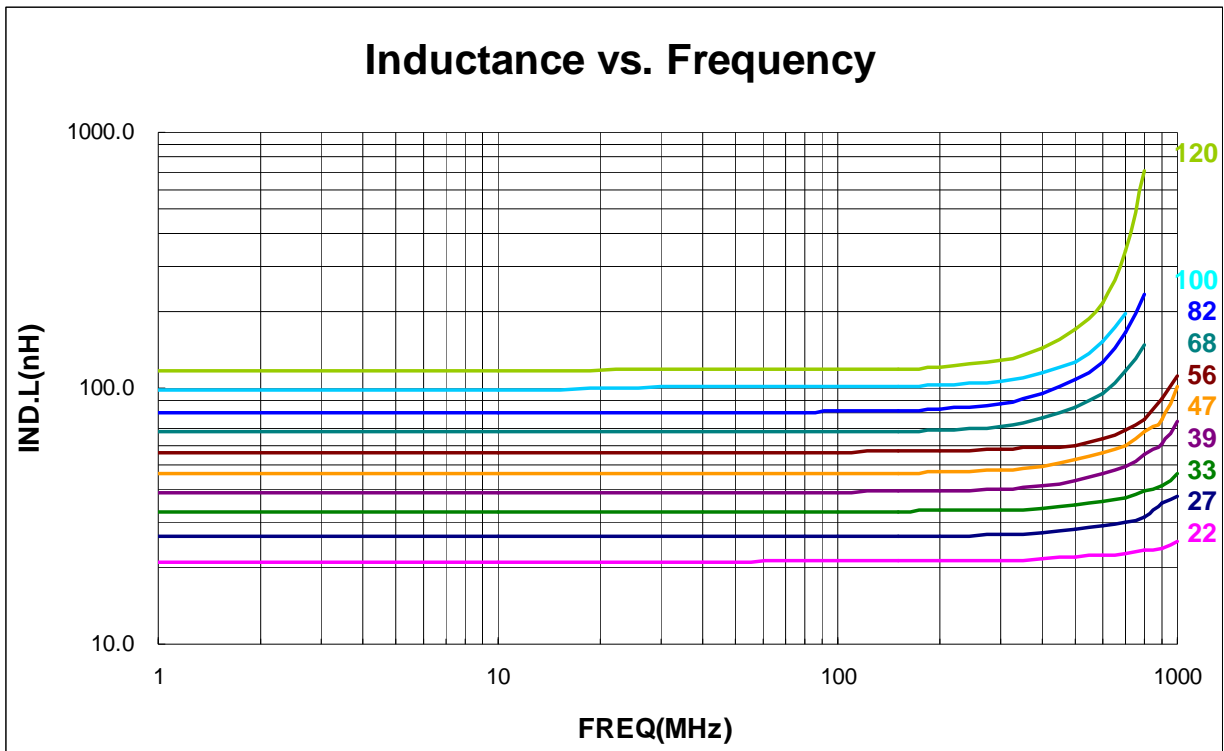
※TEST INSTRUMENT: HP4291B、HP8753E、CHROMA16502

NOTE :

1. Inductance & SRF measured on the HP4291B.
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

### ● WQAC293 series

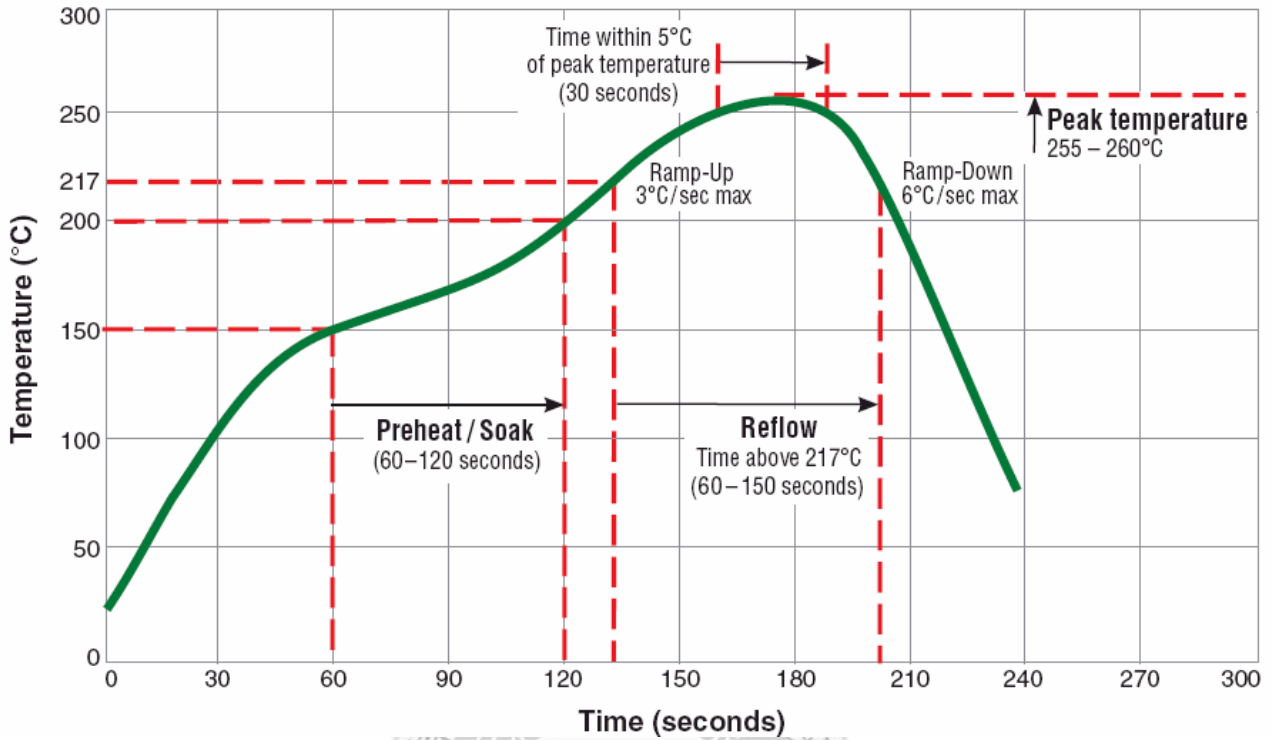


**RELIABILITY PERFORMANCE**

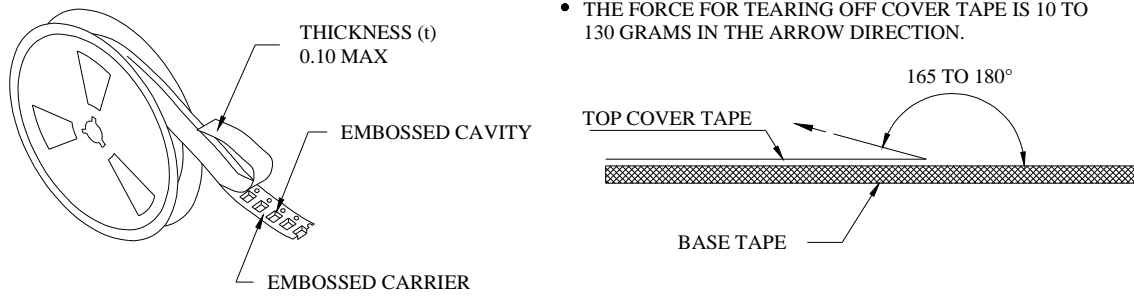
Test Item	Test Condition	Standard Source
High Temperature Exposure (Storage)	1000 hrs. at rated operating temperature (e.g. 125°C part can be stored for 1000 hrs. @ 125°C. Same applies for 105°C and 85°C. Unpowered. Measurement at 24±4 hours after test conclusion.	MIL-STD-202 Method 108
Temperature Cycling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

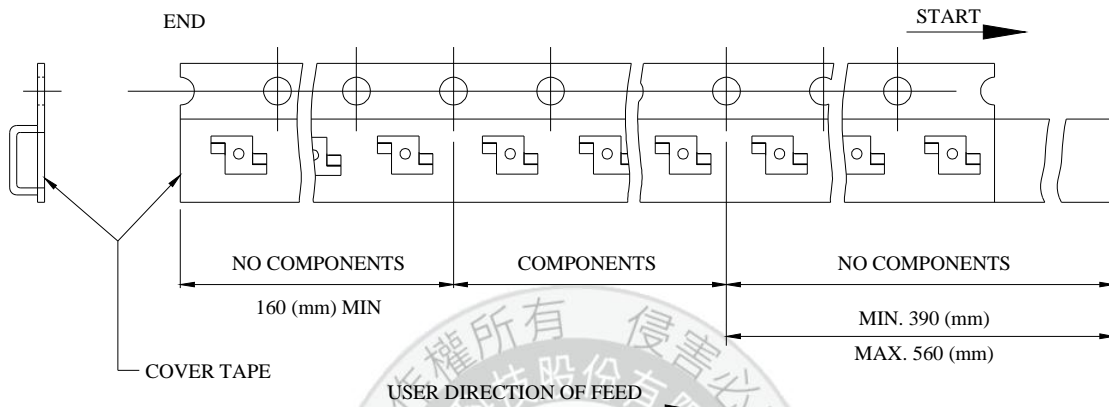
## Typical RoHS Reflow Profile



**Packaging Specification**



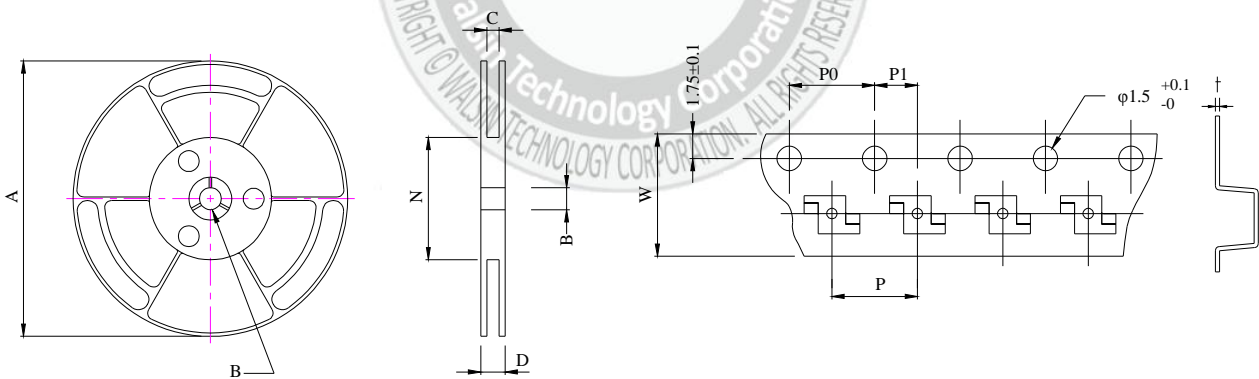
- THE FORCE FOR TEARING OFF COVER TAPE IS 10 TO 130 GRAMS IN THE ARROW DIRECTION.



■ 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	16.5	25.5	100	16.0	12.0	4.0	2.0	0.4
TOL.	MAX	±0.5	±0.5	±0.5	REF	±0.30	±0.10	±0.10	±0.10	±0.05

Quantity per reel : 1K pcs