TXC CORPORATION

www.txccorp.com

SPECIFICATION FOR APPROVAL

CN: 1708014508

CUSTOMER	:	
PRODUCT TYPE	:	SMD SEAM SEALING XTAL 5.0 × 3.2
NOMINAL FREQ.	:	16.000000MHz
TXC P/N	:	AB16000301
REVISION	:	A1
CUSTOMER P/N	:	
PM / SALES	:	
DATE	:	
CUSTOMER CONFIRMATION	:	

(1) TXC requires one copy returned with signature and title of authorized individual that signifies acceptance of the attached specifications.

(2) Orders received and accepted by TXC after return of signed copy of specification will be produced per these specifications.

(3) Any changes to these specifications must be agreed upon by both parties and new revision of the Product Specification Sheet will be issued.

(4) Any issuance of purchase order prior to consigning back the Approval page of "Specification Sheets" from customers will be regarded as the agreement on the contents of these specifications.

MSL:Level 1

RoHS Compliant

(for glass crystal only:Pb used in sealing glass material is exempt from EU directive)

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PRODUCT SPECIFICATION SHEET

CN: 1708014508

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NOMINAL FREQ.	:	16.000000MHz
TXC P/N	:	AB16000301
REVISION	:	A1

PE/RD	QA	MFG
Wen yuan Chang	ZhongLin Wu	Zhi jun Wu
31-May-17	*31-May-17*	*31-May-17*

NOTE:

(1)The green product standard set by TXC is based upon the international standards. Related information is publicly described on the TXC's Website, and updated regularly. The document is compliant with the latest green product quality system directives at the time.

(2)Revision "Sx" is for engineering samples only. PE/RD's approval required.

(3)Revision "Ax" is production ready. PE, QA and MFG's approval required

MSL:Level 1

RoHS Compliant

(for glass crystal only:Pb used in sealing glass material is exempt from EU directive)

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Rev	Revise page	Revise contents	Date	Ref.No.	Reviser
S1	N/A	Initial released	20-Nov-16	N/A	Xiaohua Zhang
A1	N/A	S Turn A	31-May-17	N/A	Xiaohua Zhang

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■ ELECTRICAL SPECIFICATIONS

Standard atmospheric conditions

Unless otherwise specified, the standard range of atmospheric conditions for making measurement and tests are as follow:

Ambient temperature : 25±5℃

Relative humidity : 40%~70%

If there is any doubt about the results, measurement shall be made within the following limits:

Ambient temperature : 25±3℃

Relative humidity : 40%~70%

Measure equipment

Electrical characteristics measured by S&A 250B or equivalent.

Crystal cutting type

The crystal is using AT CUT (thickness shear mode).

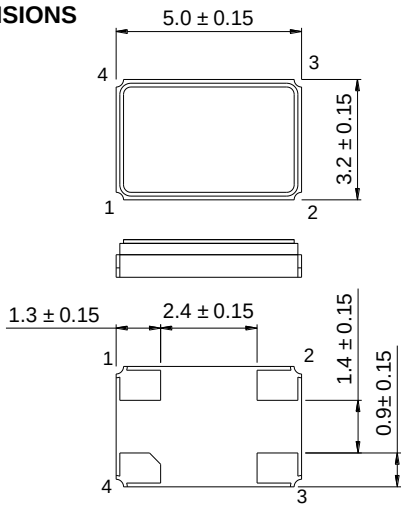
Unit Weight:

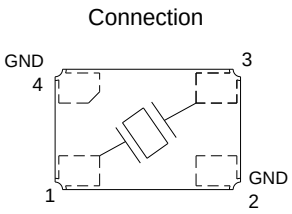
0.046±0.002 g/pcs

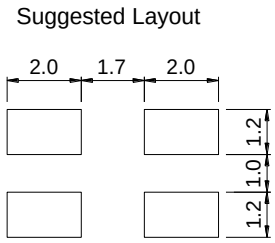
	Parameters	SYM.	Electrical Spec.				Notes
			MIN	TYPE	MAX	UNITS	
1	Nominal Frequency	FL	16.000000			MHz	-
2	Oscillation Mode	-	Fundamental			-	-
3	Load Capacitance	CL	12			pF	-
4	Frequency Tolerance	-	±30			ppm	at 25 ℃ ± 3 ℃
5	Frequency Stability	-	±100			ppm	Over Operating Temp. Range (Reference 25℃)
6	Operating Temperature	-	-40	~	125	℃	-
7	Aging	-	-3	~	3	ppm	1st Year
8	Drive Level	DL	-	50	100	μW	-
9	Effective Resistance	Rr	-	-	80	Ω	-
10	Shunt Capacitance C0	C0	-	-	5	pF	-
11	Insulation Resistance	-	500	-	-	MΩ	at DC 100V
12	Storage Temperature Range	-	-40	~	125	℃	-

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■ DIMENSIONS

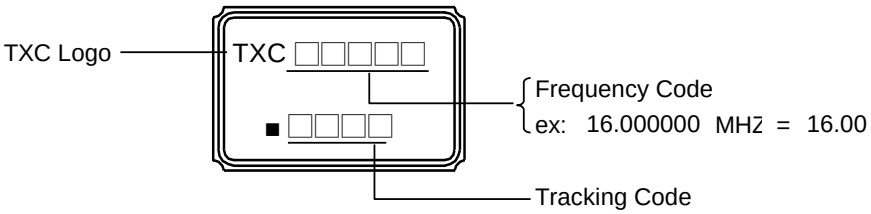






*Coplanarity of solderable areas Camber 0.10 mm Max

■ MARKING

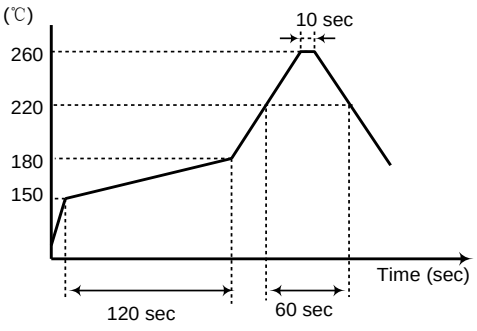


Production location: China or Taiwan

■ SUGGESTED REFLOW PROFILE

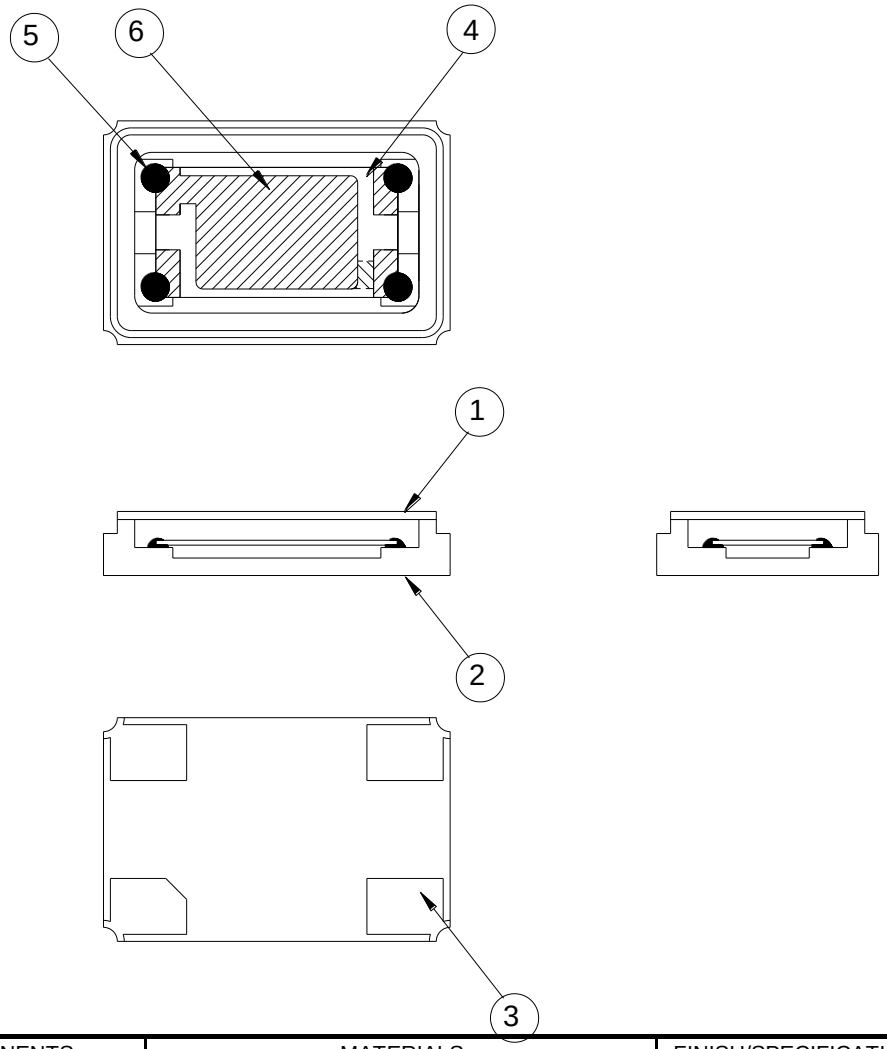
Total time : 200 sec. Max.

Solder melting point :220 ℃



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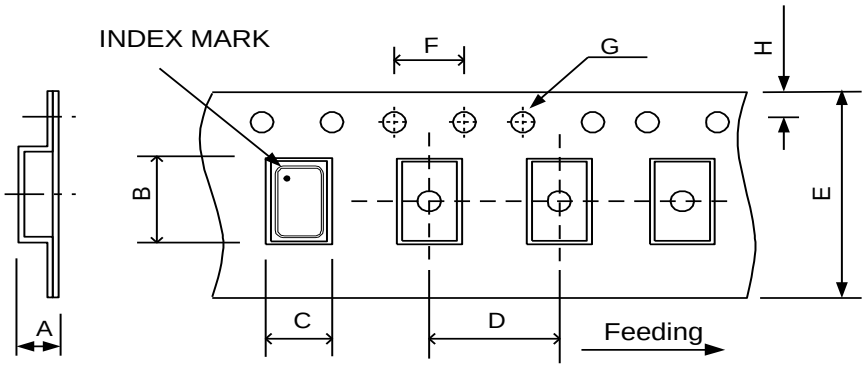
■ STRUCTURE ILLUSTRATION



NO	COMPONENTS	MATERIALS	FINISH/SPECIFICATIONS
1	Lid	Kovar (Fe/Co/Ni)	-
2	Package	Ceramic (Al_2O_3) + Kovar (Fe/Co/Ni)+ Ag/Cu	-
3	PAD	Au	Tungsten metalize + Ni plating + Au plating
4	Crystal blank	SiO_2	-
5	Conductive adhesive	Ag+Silicon	-
6	Electrode	Noble Metal	-

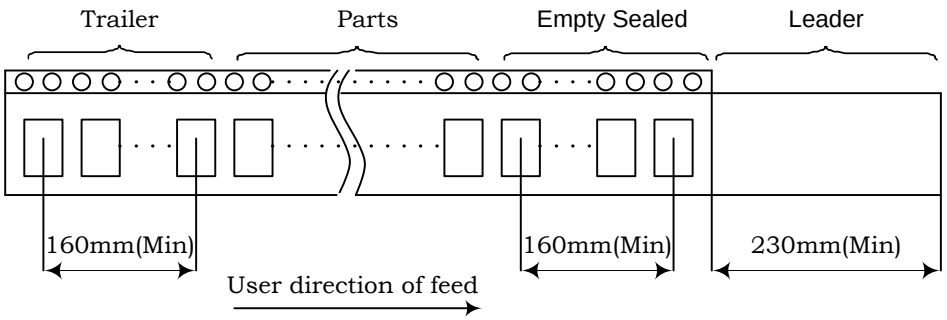
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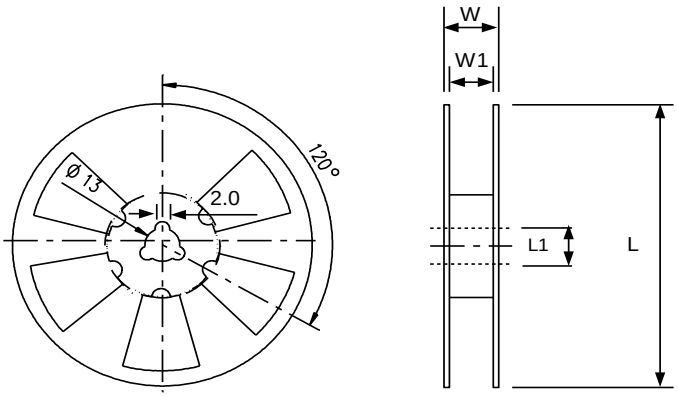
■ PACKING



DIMENSIONS	A	B	C	D	E	F	G	H	
	1.65±0.10	5.40±0.10	3.50±0.10	8.00±0.10	12.00±0.30	4.00±0.10	1.55±0.10	1.75±0.10	(UNIT : mm)

REMARK :





DIMENSIONS	L	L1	W	W1	pcs / Reel (UNIT : mm)
	180±1.00	13±0.50	16.5±0.20	12±0.10	Standard Reel Quantity is 1,000 pcs per reel

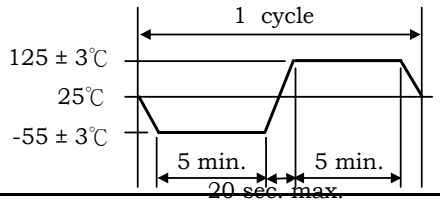
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■ RELIABILITY SPECIFICATIONS (AEC-Q200 Compliant)

1.Mechanical Endurance

No.	Test Item	Test Methods		REF.DOC
1	Drop Test	120 cm height, 20 times on Stainless Plate .		JIS C 6701
1	Mechanical Shock	Device are shocked to half sine wave (5000 G) three mutually perpendicular axes each 3 times. 0.3m sec. duration time		MIL-STD-202 Method 213
1	Vibration	Frequency range Amplitude Sweep time Perpendicular axes each test time	10 ~ 2000 Hz~10 Hz 1.52 mm/20G 20 minute 4 Hrs (Total test time 12 Hrs)	MIL-STD-202 Method 204
1	Solderability	Temperature Immersing depth Immersion time Flux	245 ℃ ± 5℃ 1.25 mm 5 ± 1 seconds Rosin resin methyl alcohol solvent (1 : 4)	J-STD-002
2	Terminal Strength	Mount on PCB board and shear strength 1.8kg for 60 sec.		AEC-Q200-006
2	Board Flex	Duration Time: 60 sec, Deviation: 3mm		AEC-Q200-005

2.Environmental Endurance

No.	Test Item	Test Methods		REF. DOC
2	Resistance To Soldering Heat	Pre-heat temperature Pre-heat time Test temperature Test time	125 ℃ 60 ~ 120 sec. 260 ± 5 ℃ 10 ± 1 sec.	MIL-STD 202 Method 210
2	High Temp. Storage	+ 125 ℃ ± 3 ℃ for all 1000 Hrs.		MIL-STD-202 Method 108
2	Low Temp. Storage	- 40 ℃ ± 3 ℃ for all 1000 Hrs.		JIS C 6701
2	Thermal Shock	Total 1000 cycles of the following Thermal Shock : 		MIL-STD-202 Method 107
3	Temperature Cycle	Total 1000 cycles of the following temperature cycle : - 40℃ ± 3 to 125℃ ± 3 , Dwell time:15min.		JESD 22 Method JA-104
3	Biased Humidity	+ 85℃ ± 3℃ , RH 85% , 1000 Hrs.		MIL-STD-202 Method 103
3	Moisture Resistance	20 cycles (+25℃~65℃ , 80%~100% RH) , 24hrs/cycle.		MIL-STD 202 Method 106
3	Operational Life	+ 125 ℃ ± 3 ℃ for 1000 Hrs.		MIL-STD-202 Method 108

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