

# SPECIFICATION FOR APPROVAL

CUSTOMER : \_\_\_\_\_

PRODUCT TYPE : SMD GLASS SEALING X'TAL 2.0x1.6  
\_\_\_\_\_

NOMINAL FREQ. : 26.000000MHz  
\_\_\_\_\_

TXC P/N : 7R26000001  
\_\_\_\_\_

REVISION : S1  
\_\_\_\_\_

CUSTOMER P/N : \_\_\_\_\_  
\_\_\_\_\_

PM / SALES : \_\_\_\_\_  
\_\_\_\_\_

DATE : \_\_\_\_\_  
\_\_\_\_\_

CUSTOMER SIGNATURE & Date  
\_\_\_\_\_  
\_\_\_\_\_

**MSL:Level 1**  
**RoHS Compliant**

Pb used in sealing glass material is exempt from EU directive


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PE/RD	QA	MFG
 Robin Huang		
9-Dec-16		

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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°C  
Relative humidity : 40%~70%

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

Ambient temperature : 25±3°C  
Relative humidity : 40%~70%

### Measure Equipment

Electrical characteristics measured by S&A250B or equivalent.

### Crystal Cutting Type

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

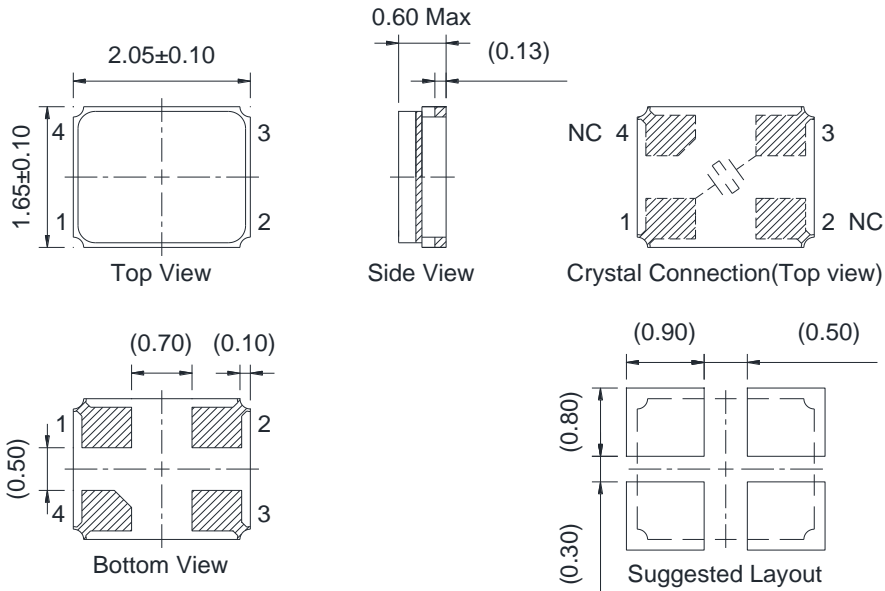
### Unit Weight

0.006±0.002 g/pcs

	Parameters	SYM.	Electrical Spec.				Notes
			MIN	TYP	MAX	UNITS	
1	Nominal Frequency	FL	26.000000			MHz	-
2	Oscillation Mode	-	Fundamental			-	-
3	Load Capacitance	CL	9			pF	-
4	Frequency Tolerance	-	±10			ppm	at 25 ± 3 °C
5	Frequency Stability	-	±10			ppm	Over Operating Temp. Range (Reference 25°C)
6	Operating Temperature	-	-20	~	75	°C	-
7	Aging	-	±3			ppm	1st Year
8	Drive Level	DL	-	100	-	uW	-
9	Equivalent Resistance Rr	Rr	-	-	80	Ω	-
10	Shunt Capacitance C0	C0	-	-	3	pF	-
11	Insulation Resistance	-	500	-	-	MΩ	at DC 100V
12	Storage Temperature Range	-	-40	~	85	°C	-

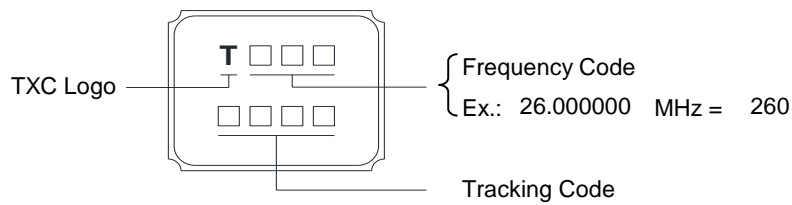
**■ DIMENSIONS**

(Unit:mm)



\*Coplanarity of solderable areas camber 0.10 mm max.

**■ MARKING**

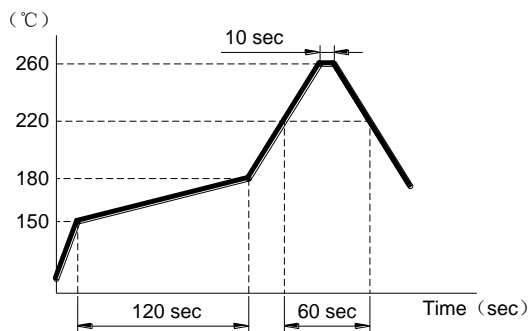


**Production Location:China(Ningbo)**

**■ SUGGESTED REFLOW PROFILE**

Solder melting point : $220 \pm 10$  °C , 60 sec. min.

Peak temperature:  $260 \pm 5$  °C , 10 sec. max.



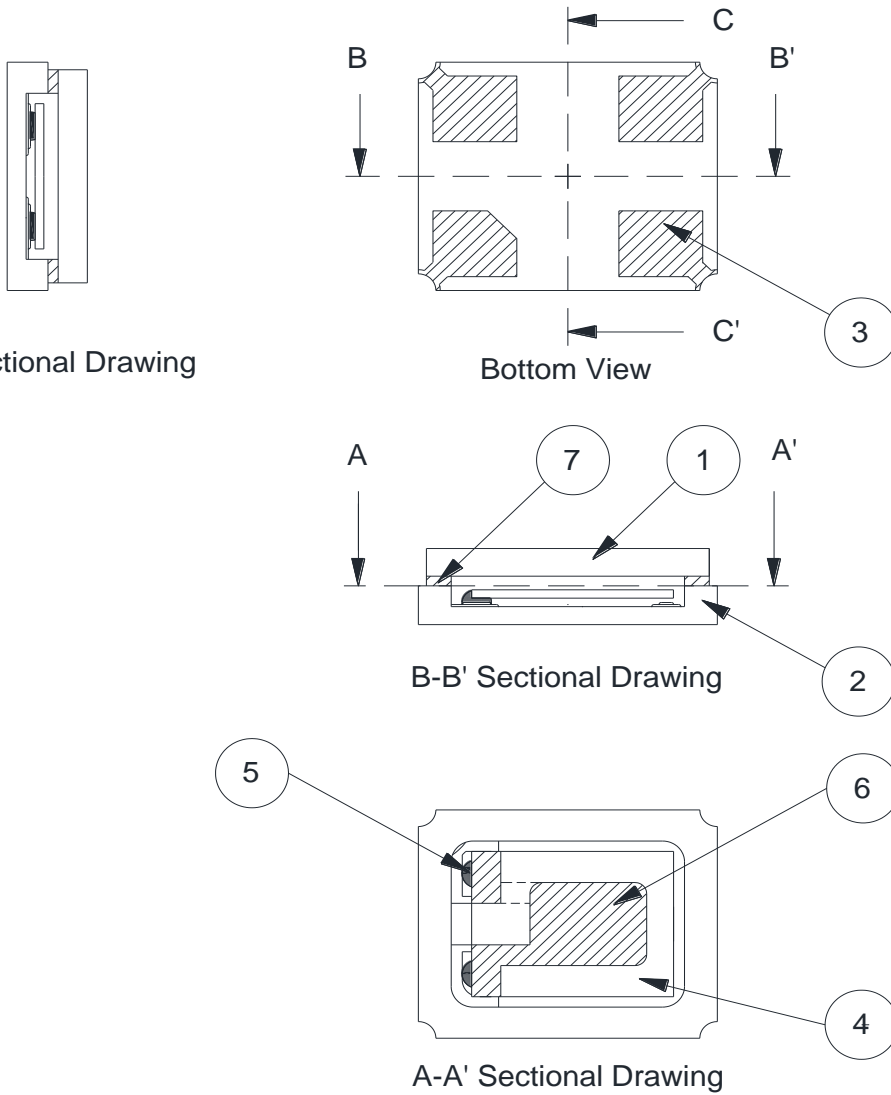
**■ SUGGESTED MANUAL SOLDER CONDITION**

Temperature:  $350 \pm 10$  °C

Time: 3 sec.

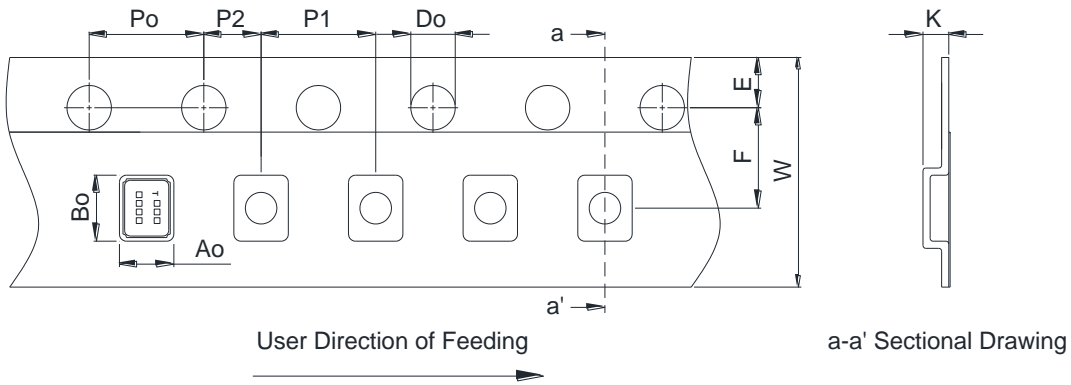
Re-solder times: twice

**STRUCTURE ILLUSTRATION**



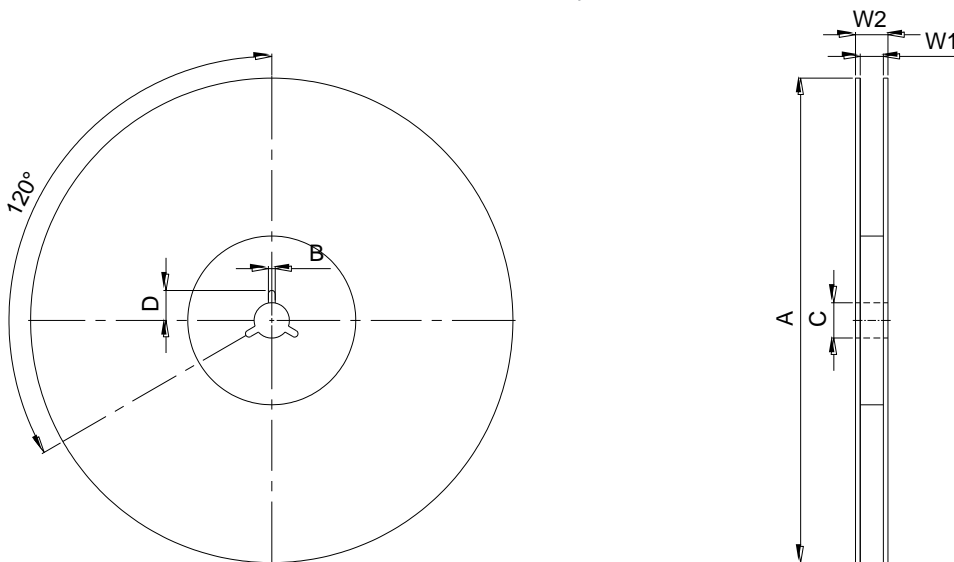
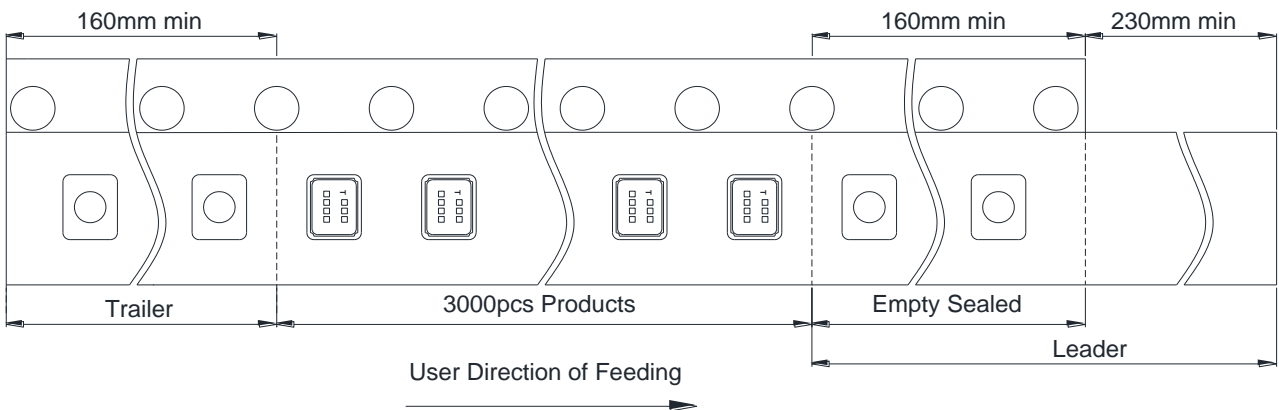
NO	COMPONENTS	MATERIALS	FINISH/SPECIFICATIONS
1	Cap	Ceramic (Al <sub>2</sub> O <sub>3</sub> )	-
2	Package	Ceramic (Al <sub>2</sub> O <sub>3</sub> )	-
3	PAD(Part of package)	Au	Tungsten metalize + Ni plating + Au plating
4	Crystal blank	SiO <sub>2</sub>	-
5	Conductive adhesive	Resin+Ag	-
6	Electrode	Noble metal	-
7	Sealing glass	Glass(PbO)	-

**EMBOSS CARRIER TAPE & REEL**



DIMENSIONS (Unit:mm)	A0	B0	D0	E	F
	1.90±0.10	2.30±0.10	1.55±0.10	1.75±0.10	3.50±0.10
	K	P0	P1	P2	W
	0.90±0.10	4.00±0.10	4.00±0.10	2.00±0.10	8.00±0.20

REMARK :



DIMENSIONS (Unit:mm)	A	B	C	D	W1	W2
	178.00±1.00	2.75±0.25	13.00±0.50	11.00±0.50	8.50±0.50	11.50±0.20



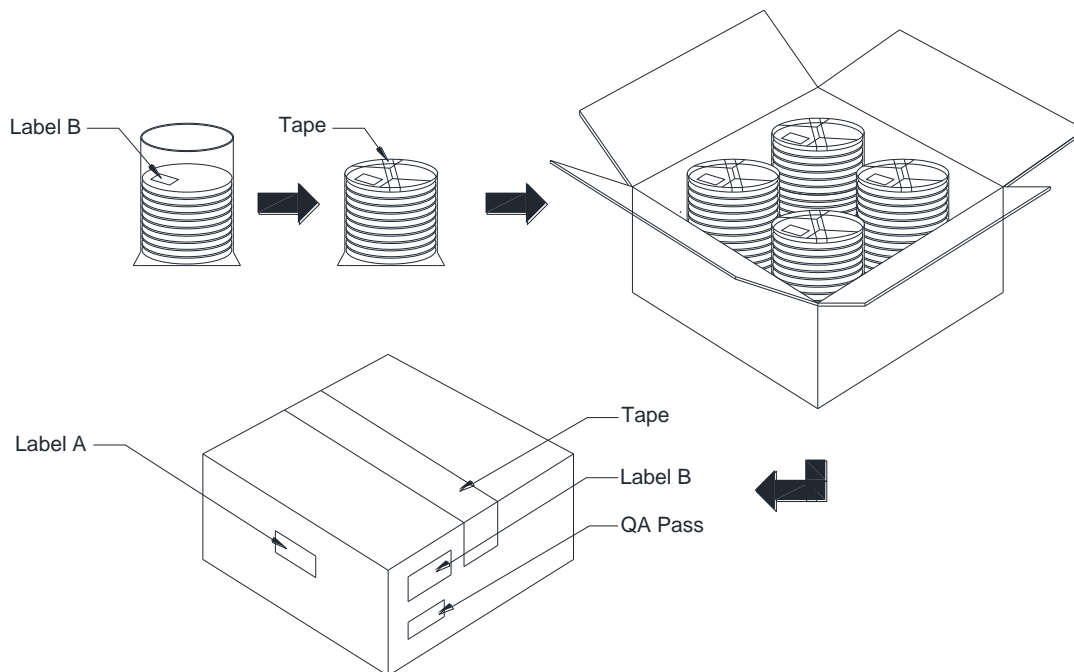
**PACKING**

Reel Quantity :

1. Reel X 6 (6 Reels)
2. Reel X12 (12 Reels)
3. Reel X 25 (12 Reels +13 Reels)
4. Reel X 50 (12 Reelsx2+13 Reelsx2 )
5. Reel X100 (12 Reelsx4+13 Reelsx4 )

Box Size:

1. L200 X W200 X H140mm
2. L200 X W200 X H250mm
3. L400 X W200 X H250mm
4. L400 X W400 X H280mm
5. L414 X W414 X H340mm



(Label A) Size:100 X 100mm

TXC

Inv No: 00096815

Po No: 21106326- 24- 1

Part No:

Qty: 40000 PCS

C/No: 157- 44

(Label B) Size:80 X 40mm

TXC CORPORATION		QA PASS
DATE CODE:	QTY:	2011/09/02
 LOT NO: <span style="border: 1px solid black; display: inline-block; width: 100px; height: 15px;"></span>		 <div style="display: flex; flex-direction: column; align-items: center;"> <div style="border: 1px solid black; padding: 2px; margin: 2px;">RoHS</div> <div style="border: 1px solid black; padding: 2px; margin: 2px;">HF</div> </div>
 PART NO: <span style="border: 1px solid black; display: inline-block; width: 100px; height: 15px;"></span>		
FREQ: <span style="border: 1px solid black; display: inline-block; width: 100px; height: 15px;"></span>		

**[STORAGE]**

1. Don't be caught in the rain.
2. The storage environment shall be 5°C ~40°C temperature and 30% ~ 75%RH humidity and free from the sun shine.
3. If customers have special requirements, we can paste labels according to it.

**RELIABILITY SPECIFICATIONS**

**1.Mechanical Endurance**

No.	Test Item	Test Methods	Test Criteria
1.1	Drop Test	150 cm height,3 times on concrete floor .	A . C
1.2	Mechanical Shock	Device are shocked to half sine wave ( 1000 G ) three mutually perpendicular axes each 3 times. 0.5 ms duration time	A . C
1.3	Vibration	Frequency range 10 ~ 2000 Hz Amplitude 1.52 mm/20G Sweep time 20 minutes Perpendicular axes each test time 4 Hrs (Total test time 12 Hrs)	A . C
1.4	Solderability	Temperature 245 °C ± 5°C Immersing depth 0.5 mm minimum Immersion time 5 ± 1 seconds Flux Rosin resin methyl alcohol solvent ( 1 : 4 )	E

**2.Environmental Endurance**

No.	Test Item	Test Methods	Test Criteria
2.1	Resistance to Soldering Heat	Pre-heat temperature 125 °C Pre-heat time 60 ~ 120 sec. Test temperature 260 ± 5 °C Test time 10 ± 1 sec.	B . C . D
2.2	High Temp. Storage	+ 125 °C ± 3 °C for 500 ± 12 Hrs	B . C . D
2.3	Low Temp. Storage	- 40 °C ± 3 °C for 500 ± 12 Hrs	B . C . D
2.4	Temperature Cycle	Total 100 cycles of the following temperature cycle 	B . C . D
2.5	High Temp & Humidity	85°C ± 3°C , RH 85% , 500 Hrs	B . C . D

**RELIABILITY SPECIFICATIONS**

Specifications	
A	Frequency change: Within $\pm 5$ ppm or in customer's specification.
B	Frequency change: Within $\pm 15$ ppm or in customer's specification.
C	Equivalent series resistance(E.S.R) change: Within $\pm 15\%$ or $10\Omega$ (larger value).
D	After conditioning , quartz crystal units shall be subjected to standard atmospheric conditions for 2 hour, and measured.
E	Minimum 95% of immersed terminal shall be covered with new uniform solder.

**Measurement condition**

Electrical characteristics measured by S&A250B or equivalent.

**NOTE:**

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.
5. 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.
6. Revision "Sx" is for engineering samples only. PE/RD's approval required.
7. Revision "Ax" is production ready. PE, QA and MFG's approval required.
8. Prohibit the use of moulding in assembling process.