

SPECIFICATION FOR APPROVAL

CN: 1512020664

CUSTOMER	:	
PRODUCT TYPE	:	SMD SEAM SEALING X'TAL 3.2×2.5
NOMINAL FREQ.	:	30.000000MHz
TXC P/N	:	AM30000301
REVISION	:	S1
CUSTOMER P/N	:	
PM / SALES	:	
DATE	:	
CUSTOMER CONFIRMATION	:	
		(Singnature)
		(Date)

MSL:Level 1
RoHS Compliant

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

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PE/RD	QA	MFG
<i>Wen yuan Chang</i> Wen yuan Chang		
<i>18-Dec-15</i>		

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

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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 : $25\pm5^{\circ}\text{C}$
Relative humidity : 40%~70%

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

Ambient temperature : $25\pm3^{\circ}\text{C}$
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).

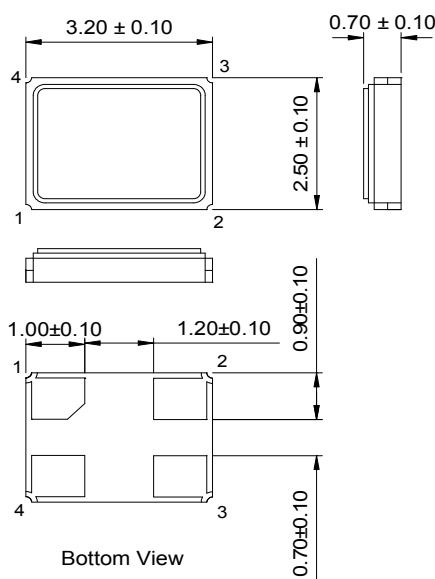
Unit Weight:

0.017 ± 0.002 g/pcs

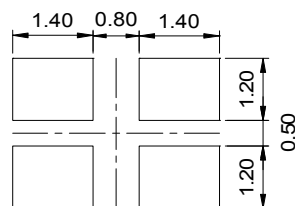
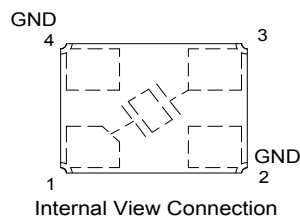
	Parameters	SYM.	Electrical Spec.				Notes
			MIN	TYPE	MAX	UNITS	
1	Nominal Frequency	FL	30.000000			MHz	-
2	Oscillation Mode	-	Fundamental			-	-
3	Load Capacitance	CL	12			pF	-
4	Frequency Tolerance	-	± 10			ppm	at $25^{\circ}\text{C} \pm 3^{\circ}\text{C}$
5	Frequency Stability	-	± 50			ppm	Over Operating Temp. Range (Reference 25°C)
6	Operating Temperature	-	-40	~	105	$^{\circ}\text{C}$	-
7	Aging	-	± 3			ppm	1st Year
8	Drive Level	DL	-	100	200	μW	-
9	Effective Resistance Rr	Rr	-	-	50	Ω	-
10	Shunt Capacitance C0	C0	-	-	3	pF	-
11	Insulation Resistance	-	500	-	-	M Ω	at DC 100V
12	Storage Temperature Range	-	-40	~	125	$^{\circ}\text{C}$	-

■ DIMENSIONS

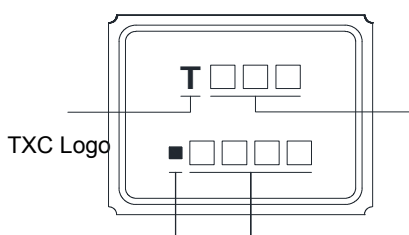
(Unit:mm)



Unit:mm



■ MARKING



Pin 1 Index Mark

Production Location:China(Ningbo)

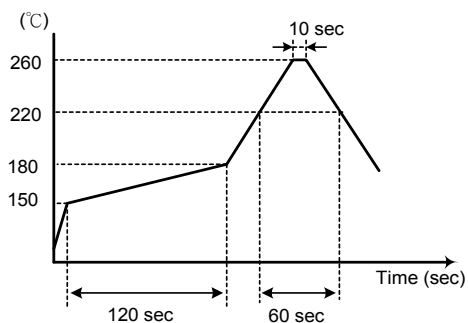
Frequency Code
 Ex.: 30.000000 MHz = 300

Tracking Code

■ SUGGESTED REFLOW PROFILE

Solder melting point : 220 ± 10 °C, 60 sec. Min.

Peak Temperature: 260 ± 5 °C, 10 sec. Max.



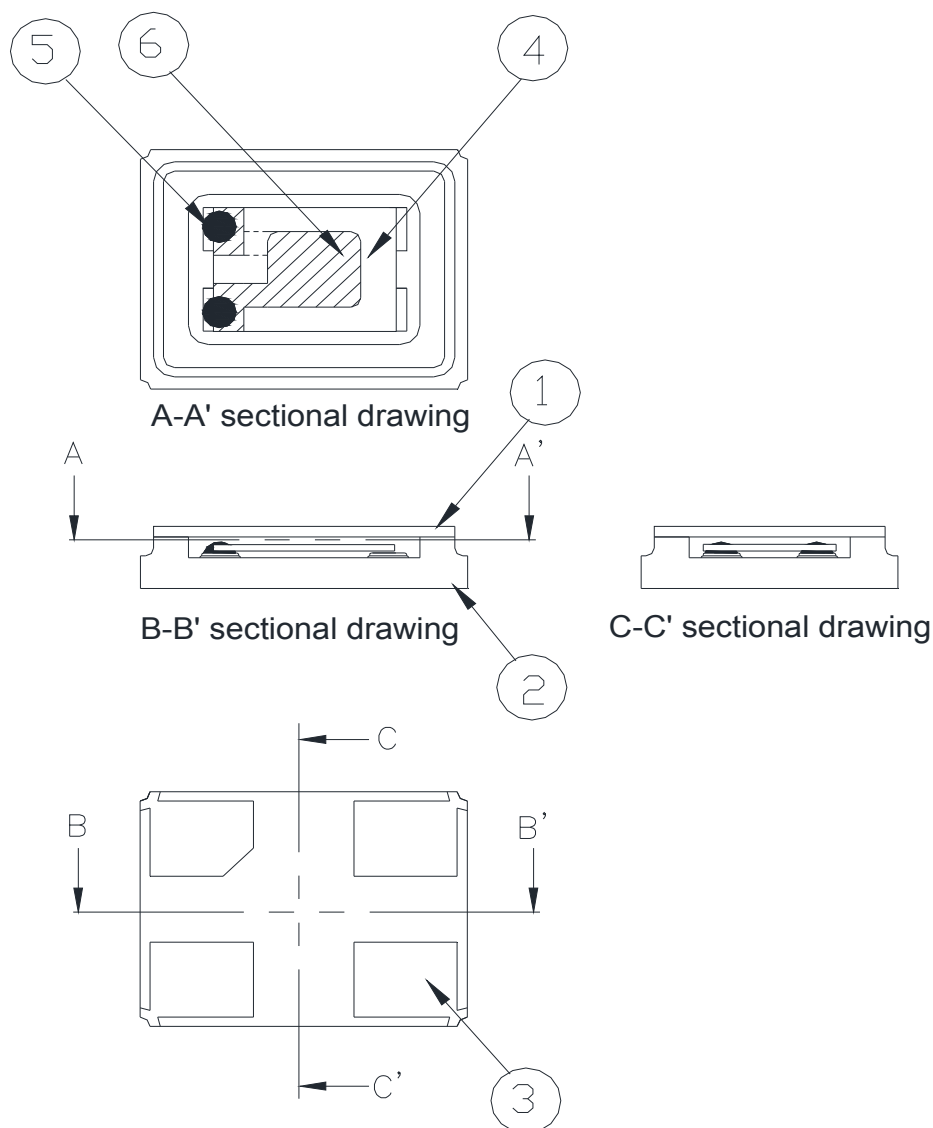
■ SUGGESTED MANUAL SOLDER CONDITION

Temperature: 350 ± 10 °C

Time: 3 sec.

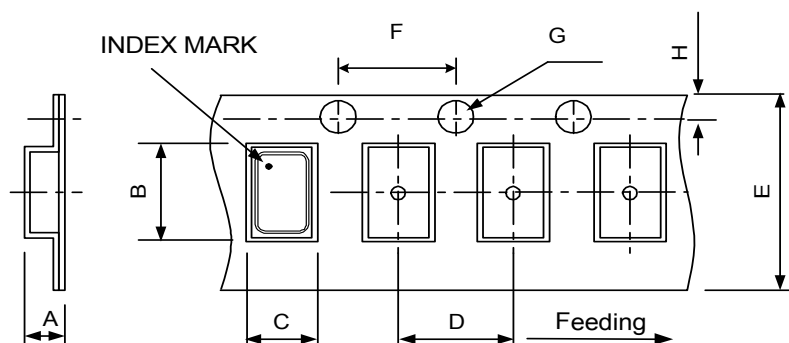
Re-solder times: twice

■ STRUCTURE ILLUSTRATION

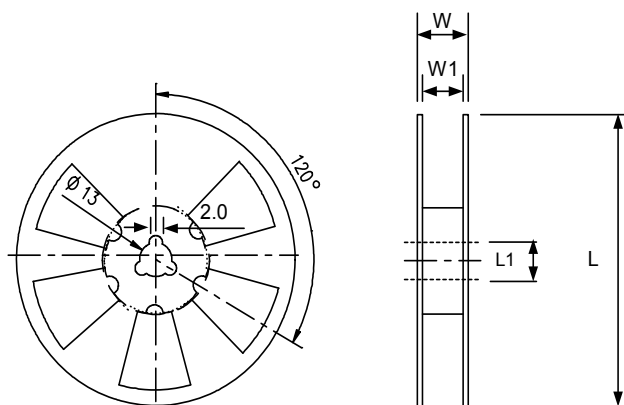
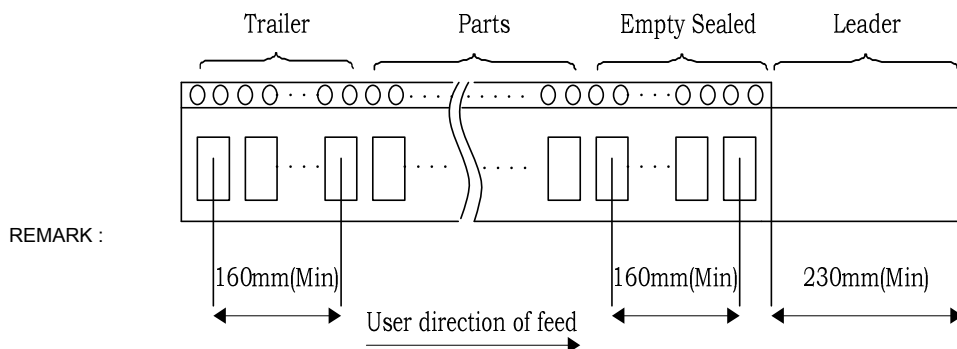


NO	COMPONENTS	MATERIALS	FINISH/SPECIFICATIONS
1	Lid	Kovar (Fe/Co/Ni)	-
2	Package	Ceramic (Al ₂ O ₃) + Kovar (Fe/Co/Ni)+ Ag/Cu	-
3	PAD	Au	Tungsten metalize + Ni plating + Au plating
4	Crystal blank	SiO ₂	-
5	Conductive adhesive	Resin+Ag	Silicon resin
6	Electrode	Noble Metal	-

■ PACKING



DIMENSIONS	A	B	C	D	E	F	G	H	(UNIT : mm)
	1.65±0.01	3.40±0.01	2.70±0.01	4.00±0.01	8.00±0.02	4.00±0.01	1.50±0.01	1.75±0.01	



DIMENSIONS	L	L1	W	W1	pcs / Reel (UNIT : mm)
	178±1.0	13±0.5	11.5±0.2	8±0.1	Standard Reel Quantity is 3,000 pcs per reel

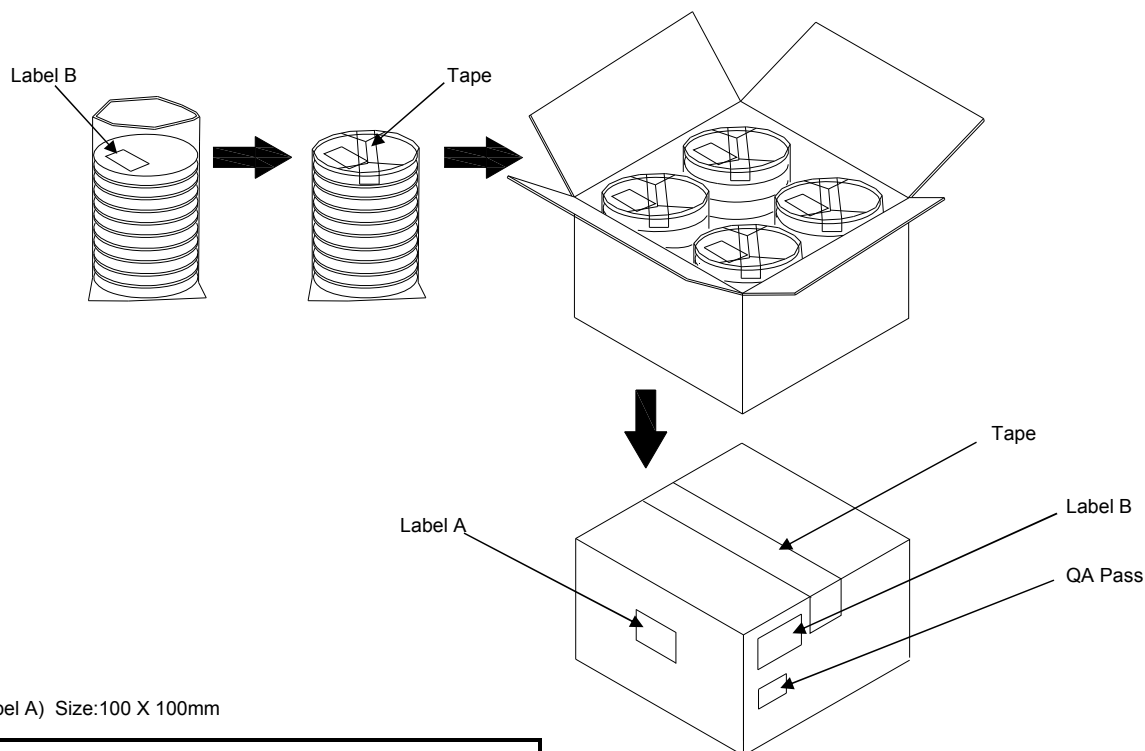
■ PACKING

Reel Quantity :

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

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



(Label A) Size:100 X 100mm

TXC	
Inv No: 00096815	
Po No: 21106326- 24- 1	
Part No: 00000000	
Q'ty: 40000 PCS	
C/No: 157- 44	

(Label B) Size:80 X 40mm

TXC CORPORATION		QA PASS
DATE CODE: 00000000	QTY: 0000	2011/09/02
LOT NO: 00000000	RoHS	
PART NO: 00000000	HF	
FREQ: 0000000000		

[STORAGE]

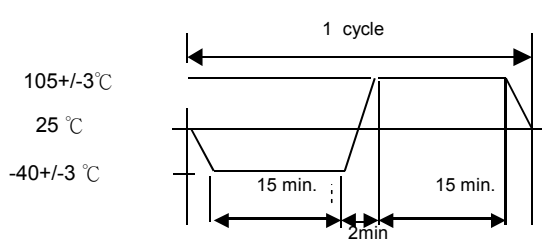
1. Don't be caught in the rain.
2. The storage environment shall be 5°C ~40°C temperature and 30% ~ 75%RH humidity and free from the sun shine.
3. If customers have special requirements, we can paste labels according to it.

■ RELIABILITY SPECIFICATIONS (AEC-Q200 Compliant)

1.Mechanical Endurance

No.	Test Item	Test Methods	Test Criteria
1	Mechanical Shock	2000 G , 0.3 m Sec. ,3 times for all 3 directions.	B C
1	Vibration	Frequency range 10 ~ 2000 Hz Acceleration 20G Amplitude 1.52mm Sweep time 20 minute Pendicular axes each test time 4 hours (Total test time 12 hours)	B C
1	Terminal Strength	17.7N force for 60sec +/-1sec.	F
1	Board Flex	Duration time:60 Sec Minimum,Deviation:3mm	B C
2	Solderability	Temperature 245 °C +/- 5°C Immersing depth 0.5 mm minimum Immersion time 5 +/- 0.5 seconds Flux Rosin resin methyl alcohol solvent (1 : 4)	E

2.Environmental Endurance

No.	Test Item	Test Methods	SPEC
2	Resistance To Soldering Heat	Test temperature 260 +/- 5 °C Test time 10 +/- 1 sec.	BCD
2	High Temp. Storage	+ 105°C ± 3 °C for 1000 ± 12 Hrs	BCD
2	Low Temp. Storage	- 40 °C ± 3 °C for 1000 ± 12 Hrs	BCD
2	Temperature cycle	-40°C~105°C,for 1000 cycles. 	BCD
3	Operational Life	1000 hrs @ 105± 3°C. Rated VDD applied with 1 MΩ.	BCD
3	High Temp & Humidity	85°C ± 3°C , RH 85% , 1000 Hrs	BCD

■ **RELIABILITY SPECIFICATIONS**

Specifications	
A	Frequency change: Within ± 5 ppm or in customer's specification.
B	Frequency change: Within ± 10 ppm or in customer's specification.
C	Equivalent series resistance(E.S.R) change: Within $\pm 15\%$ or 10Ω (larger value).
D	After conditioning , quartz crystal units shall be subjected to standard atmospheric conditions for 24 hour, and measured.
E	Minimum 95% of immersed terminal shall be covered with new uniform solder.
F	No damage on specimen

Measurement condition

Electrical characteristics measured by S&A250B or equivalent.