TXC CORPORATION

www.txccorp.com

Specification for Approval

CN: _____

Customer	:	
Product Type	:	SMD SEAM SEALING X'TAL 2.0×1.6
Nominal Freq.	:	25.000000MHz
TXC P/N	:	AY25000308
Revision	:	A1
Customer P/N	:	
PM / Sales	:	
Date	:	

Customer Confirmation (Signature) _____

(Date) _____

(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

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Product Specication Sheet

CN: _____

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Revision	:	A1

PE/RD	QA	MFG
Martin Jin Martin Jin	ZhongLin Wu ZhongLin Wu	zhi jun Wu Zhi jun Wu
2-Aug-22	2-Aug-22	2-Aug-22

Note:

(1) TXC green product standard is based on the international standards. Relevant information is posted on the TXC website and updated regularly. The documentation is subject to the latest green product quality system.

(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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Rev.	Revise Page	Revise Contents	Date	Ref.No.	Reviser
S1	N/A	Initial Released	1-Jun-22	2206006170	Xiaohua Zhang
A1	N/A	Approved for mass production	2-Aug-22	N/A	Xiaohua Zhang

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Spec Sheet Contents

No.	Content	Page
1	Electrical Specfications& Attention	P.3
2	Dimensions	P.4
3	Marking	P.4
4	Factory Location	P.4
5	Suggested Reflow Profile & Manual Solder Condition	P.4
6	Structure Illustration	P.5
7	Emboss Carrier Tape& Reel	P.6
8	Packing	P.7
9	Reliability Specifications	P.8~9

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■ Electrical Specifications

	Parameters	Sym.	Electrical Spec.				Notes
			Min.	Typ.	Max.	Units	
1	Nominal Frequency	FL		25.000000		MHz	-
2	Oscillation Mode	-		Fundamental		-	-
3	Load Capacitance	CL		8		pF	-
4	Frequency Tolerance	-	-5	-	18	ppm	at 25 ℃ ± 3 ℃
5	Frequency Stability	-	-35	-	28	ppm	Over Operating Temp. Range (Reference 25℃)
6	Operating Temperature	-	-40	~	125	℃	-
7	Aging	-	-8	-	0	ppm	10 Years at 25 ℃ ± 3 ℃
8	Total Tolerance	-		±50		ppm	Including: Frequency Tolerance Frequency Stability Aging: 10 years at 25 ℃ ± 3 ℃
9	Drive Level	DL	-	50	100	μW	-
10	Equivalent Series Resistance	RR	-	-	50	Ω	-
11	Shunt Capacitance	C0	-	-	2	pF	-
12	Insulation Resistance	-	500	-	-	MΩ	at DC 100V
13	Storage Temperature Range	-	-40	~	125	℃	-

Measurement Equipment

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

Unit Weight:

0.0065±0.001 g/pcs reference

■ Attention (注意事項) :

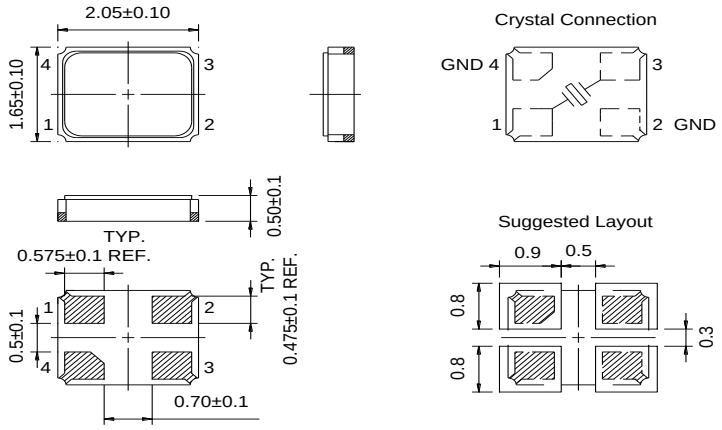
1. If you intend to use product on controls relating to medical equipment, aeronautical equipment, aerospace, military science, space equipment, etc.) please do not fail to advise us of your intention beforehand.
   請勿將本產品使用在醫療,航空,宇航,軍事或與生命安全性相關的設備中，若需使用在上述應用請事前與TXC聯繫。

2. Crystal units will be damaged by ultrasonic welding process due to resonance of crystal wafer itself.
   If ultrasonic welding used, TXC strongly recommend verifying damage by ultrasonic weld.
   本產品在超音波封合的過程中晶片可能會因共振受損，若有超音波封合需求,TXC強烈建議應給予適當的驗證。

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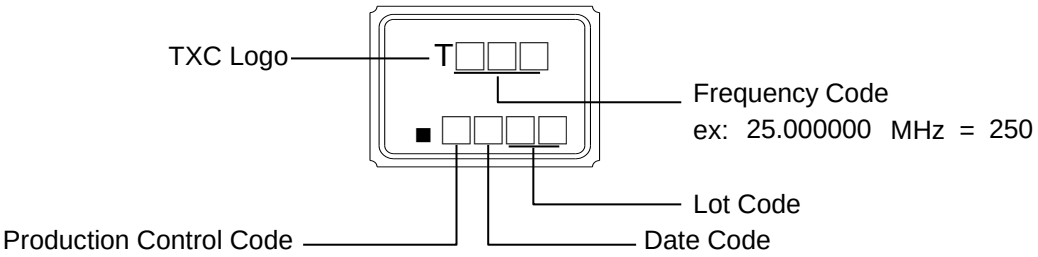
■ Dimensions

(Unit:mm)



*Coplanarity of solderable aeras Camber 0.10 mm max

■ Marking



Date Code

Year \ Month	Jan.	Feb.	Mar.	Apr.	May.	Jun.	Jul.	Aug.	Sep.	Oct.	Nov.	Dec.
2021 2025 2029 2033 2037	A	B	C	D	E	F	G	H	J	K	L	M
2022 2026 2030 2034 2038	N	P	Q	R	S	T	U	V	W	X	Y	Z
2023 2027 2031 2035 2039	a	b	c	d	e	f	g	h	j	k	l	m
2024 2028 2032 2036 2040	n	p	q	r	s	t	u	v	w	x	y	z

*This date code will be cycled every four years

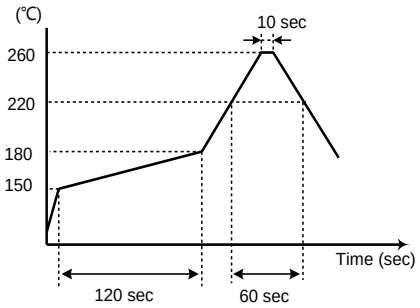
■ Production Location: China

■ Suggested Reflow Profile

Peak Temperature : 260±5℃, 10 sec. Max.

Solder Melting Point : 220±10 ℃, 60 sec. Min.

Reflow Passage Time : Twice



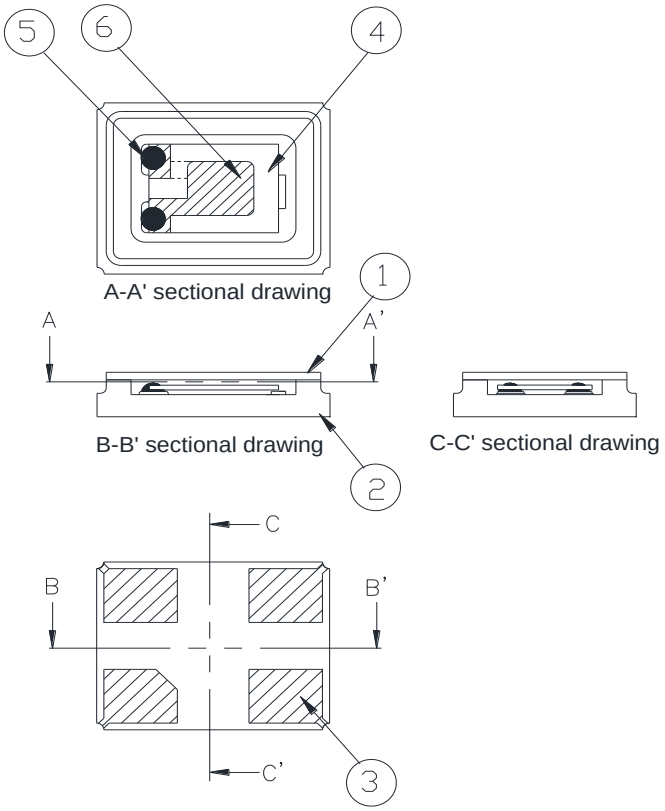
■ Suggested Manual Solder Conditon

Pressing a soliding iron of 350 ℃ on the terminal electrode for 4 seconds (twice).

Note: After manual welding, the product should be placed at least 2 hours

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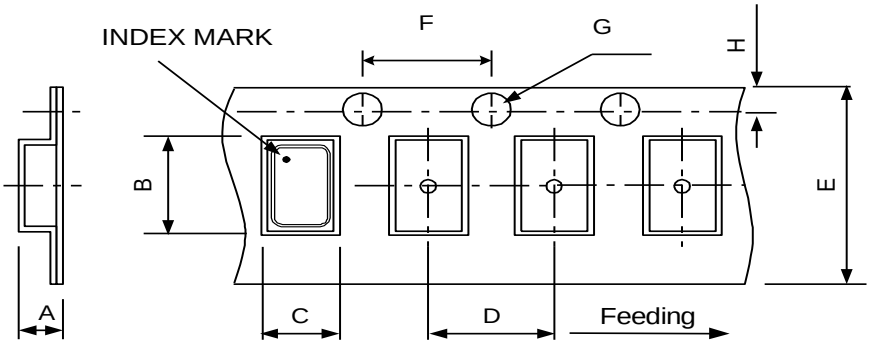
■ Structure Illustration



No.	Components	Materials	Finish/Specifications
1	Lid	Kovar (Fe/Co/Ni)	-
2	Base(Package)	Ceramic (Al_2O_3) + Kovar (Fe/Co/Ni)+ Ag/Cu	Color Black
3	PAD	Au	Tungsten Metalize + Ni plating + Au plating
4	Crystal Blank	SiO_2	-
5	Conductive Adhesive	Ag	Silicon Resin
6	Electrode	Noble Metal	-

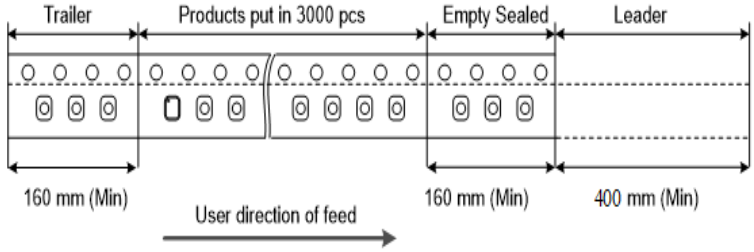
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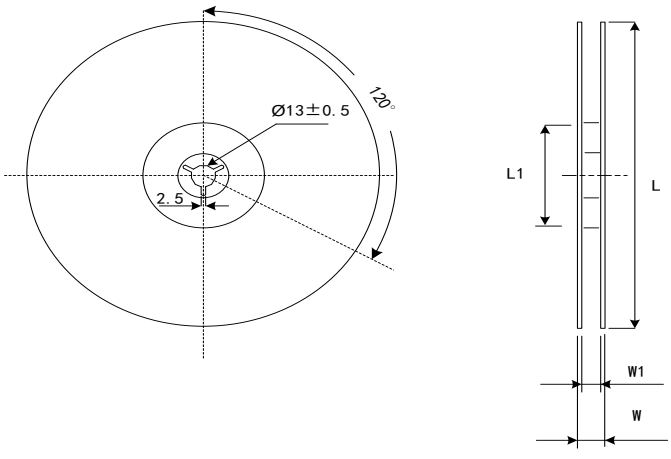
■ Emboss Carrier Tape& Reel



	A	B	C	D	E	F	G	H	
Dimensions	0.65 ± 0.10	2.30 ± 0.10	1.90 ± 0.10	4.00 ± 0.10	8.00 ±0.20	4.00 ± 0.10	1.55 ± 0.05	1.75 ± 0.10	Unit : mm

Remark :

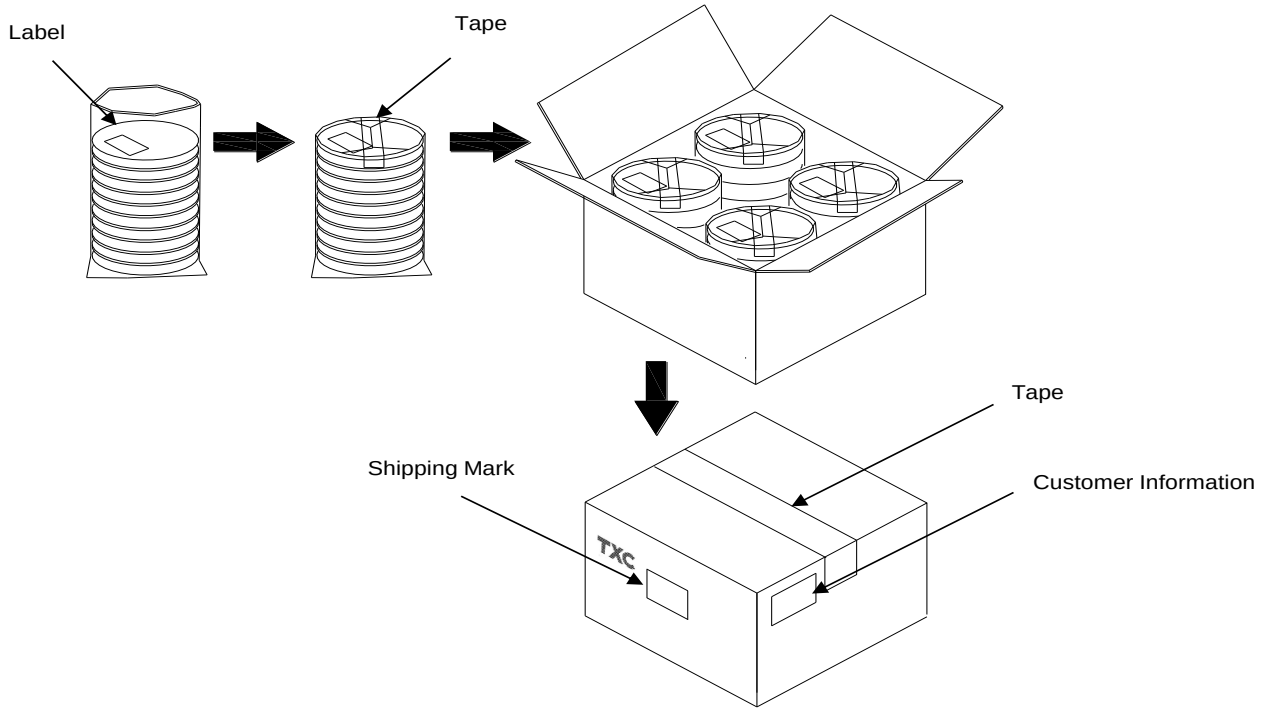




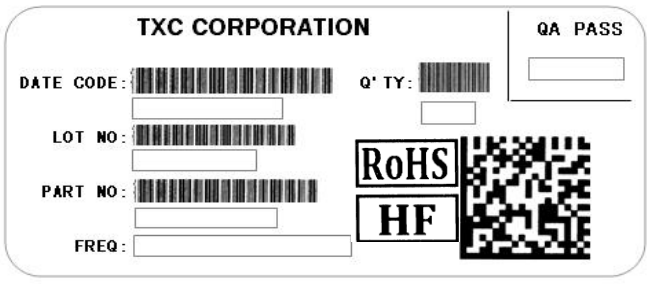
	L	L1	W	W1	3,000 PCS/Reel
Dimensions	178±1	13±1	11.5±1	8±1	Unit : mm

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■ Packing



Label ：



[Storage]

1.Do not get wet by the rain.

2.The storage environment shall be 5℃ ~40℃ and 30% ~ 75%RH humidity and avoid exposure to sunlight.

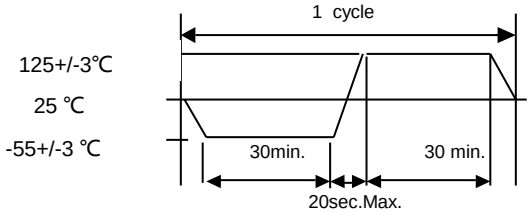
3.If customers have special requirements, we can coordinate.

■ Reliability Specifications (AEC-Q200 Compliant)

1.Mechanical Endurance

No.	Test Item	Test Condition	Criteria
1.1	Drop Test	120 cm height, 20 times on Stainless Plate .	B C
1.2	Mechanical Shock	Device are shocked to half sine wave (5000 G) three mutually perpendicular axes each 3 times. 0.3m sec. duration time	B C
1.3	Vibration	Frequency range 10 ~ 2000 Hz~10 Hz Amplitude 1.52 mm/20G Sweep time 20 minute Perpendicular axes each test time 4 Hrs (Total test time 12 Hrs)	B C
1.4	Solderability	Temperature 245 ℃ ± 5℃ Immersing depth 1.25 mm Immersion time 5 ± 1 seconds Flux Rosin resin methyl alcohol solvent (1 : 4)	E
1.5	Terminal Strength	Mount on PCB board and shear strength 1.8kg for 60 sec.	F
1.6	Board Flex	Duration Time: 60 sec, Deviation: 3mm	B C

2.Environmental Endurance

No.	Test Item	Test Condition	Criteria
2.1	Resistance To Soldering Heat	Pre-heat temperature 125 ℃ Pre-heat time 60 ~ 120 sec. Test temperature 260 ± 5 ℃ Test time 10 ± 1 sec.	BCD
2.2	High Temp. Storage	+ 125 ℃ ± 3 ℃ for all 1000 Hrs.	BCD
2.3	Low Temp. Storage	- 55 ℃ ± 3 ℃ for all 1000 Hrs.	BCD
2.4	Thermal Shock	Total 1000 cycles of the following Thermal Shock : 	BCD
2.5	Temperature Cycle	Total 1000 cycles of the following temperature cycle : - 55℃ ± 3 to 125℃ ± 3 , Dwell time:30min.	BCD
2.6	Biased Humidity	+ 85℃ ± 3℃ , RH 85% , 1000 Hrs.	BCD
2.7	Moisture Resistance	20 cycles (+25℃~65℃ , 80%~100% RH) , 24hrs/cycle.	BCD
2.8	Operational Life	+ 125 ℃ ± 3 ℃ for 1000 Hrs.	BCD

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■ Reliability Specifications

Criteria	
A	Frequency change: Within ±5ppm or in customer's specification.
B	Frequency change: Within ±10ppm or in customer's specification.
C	Equivalent series resistance(E.S.R) change: Within ±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 Equipment

Electrical characteristics measured by S&A250B or equivalent.

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