



SPECIFICATION FOR APPROVAL

CUSTOMER	:	_____
PRODUCT TYPE	:	SMD SEAM SEALING X'TAL 2.0 × 1.6
NOMINAL FREQ.	:	39.000000MHz
TXC P/N	:	8Y39072006
REVISION	:	S1
CUSTOMER P/N	:	_____
PM / SALES	:	_____
DATE	:	_____
CUSTOMER 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**



PRODUCT SPECIFICATION SHEET

PRODUCT TYPE : SMD SEAM SEALING X'TAL 2.0 × 1.6
NOMINAL FREQ. : 39.000000MHz
TXC P/N : 8Y39072006
REVISION : S1

PE/RD	QA	MFG
 Robin Huang		
25-Feb-21		

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

Spec Sheet Contents

No.	Content	Page
1	ELECTRICAL SPECIFICATIONS	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&HANDING CAUTIONS	P.8~9
10	APPLICATION NOTE	P.9

■ 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±10°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).

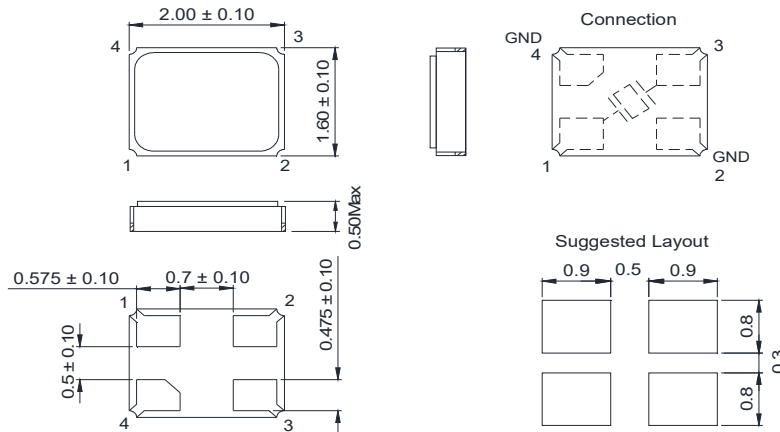
Unit Weight:

0.006 g/pcs Typ.

	Parameters	Symbol	Electrical Spec.				Notes
			Min.	Typ.	Max.	Units	
1	Nominal Frequency	FL	39.000000			MHz	-
2	Oscillation Mode	-	Fundamental			-	-
3	Load Capacitance	CL	10			pF	-
4	Frequency Tolerance	-	-7	~	7	ppm	at 25 °C ± 3 °C
5	Frequency Stability	-	-20	~	20	ppm	-40~+105°C
			-5	~	30		105~+110°C
6	Operating Temperature	-	-40	~	110	°C	-
7	Aging	-	±2			ppm	5 Years@25 °C
8	Drive Level	DL	0.01	100	-	uW	-
9	Effective Series Resistance	Rr	-	-	40	Ω	-
10	Shunt Capacitance C0	C0	0.5	0.75	1	pF	-
11	Motional Capacitance C1	C1	2	2.8	3.6	fF	-
12	Pulling Sensitivity	TS	10	12	14	ppm/pF	-
13	Motional Inductance L1	L1	4	6	8	mH	-
14	Insulation Resistance	IR	500	-	-	MΩ	at DC 100V
15	Storage Temperature Range	-	-40	~	125	°C	-

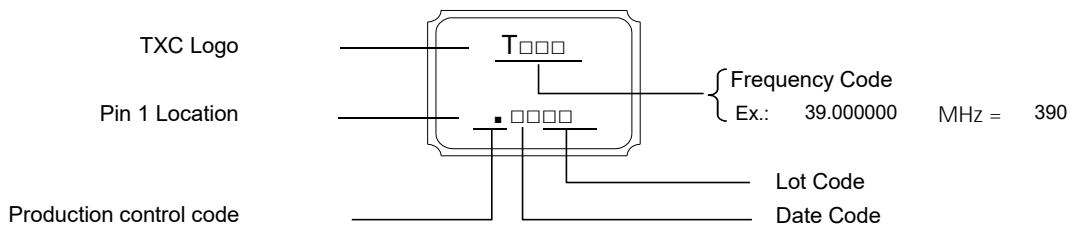
■ DIMENSIONS

(Unit:mm)



*Coplanarity of solderable areas Camber 0.05 mm Max

■ MARKING



Date Code:

YEAR					MONTH											
					JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2005	2009	2013	2017	2021	A	B	C	D	E	F	G	H	J	K	L	M
2006	2010	2014	2018	2022	N	P	Q	R	S	T	U	V	W	X	Y	Z
2007	2011	2015	2019	2023	a	b	c	d	e	f	g	h	j	k	l	m
2008	2012	2016	2020	2024	n	p	q	r	s	t	u	v	w	x	y	z

*This date code will be cycled every four years

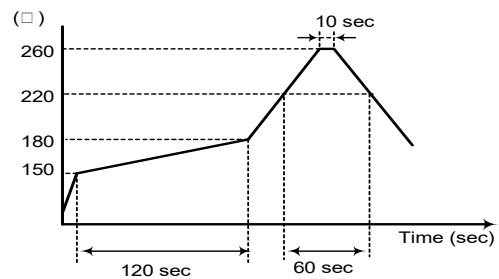
Production Location:Taiwan, China(Ningbo), China(Chungking).

■ SUGGESTED REFLOW PROFILE

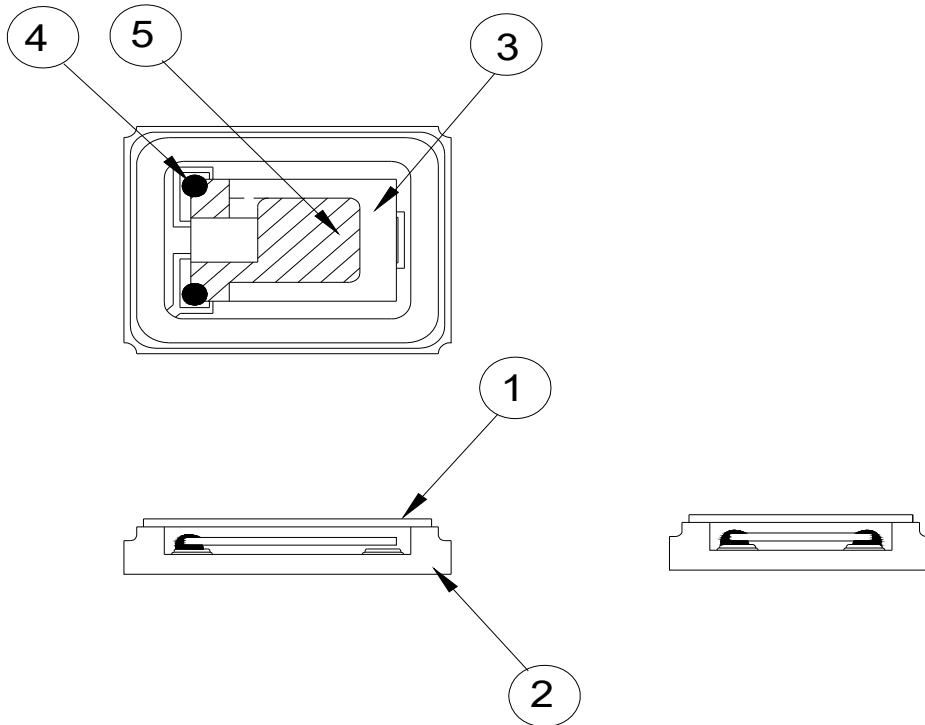
Solder melting point :220±10 °C, 60 sec. Min.
 Peak Temperature: 260 ± 5 °C, 10 sec. Max.
 Reflow Times: 3 times reflow is allowed

■ SUGGESTED MANUAL SOLDER CONDITION

Temperature: 350 ± 10 °C
 Time: 3 sec.
 Re-solder times: twice

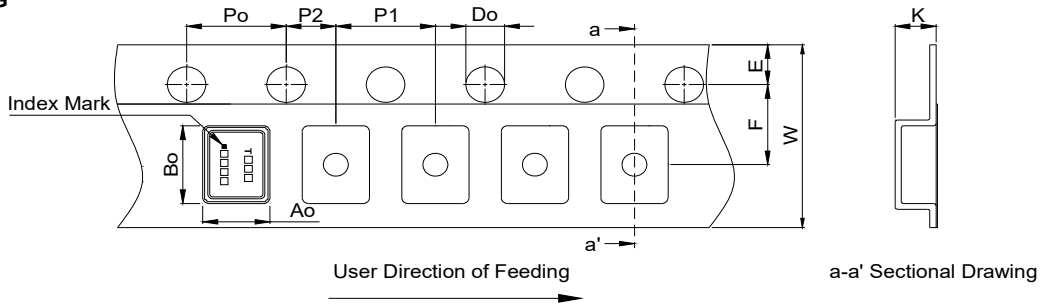


■ STRUCTURE ILLUSTRATION



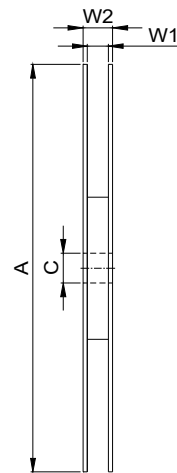
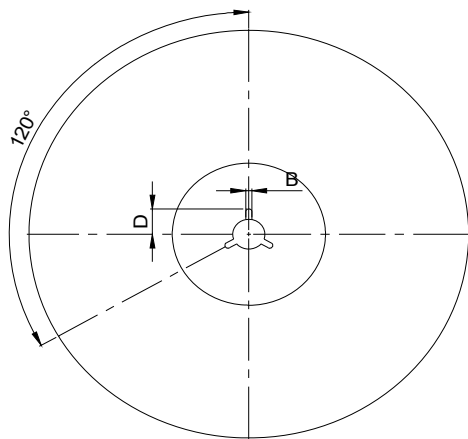
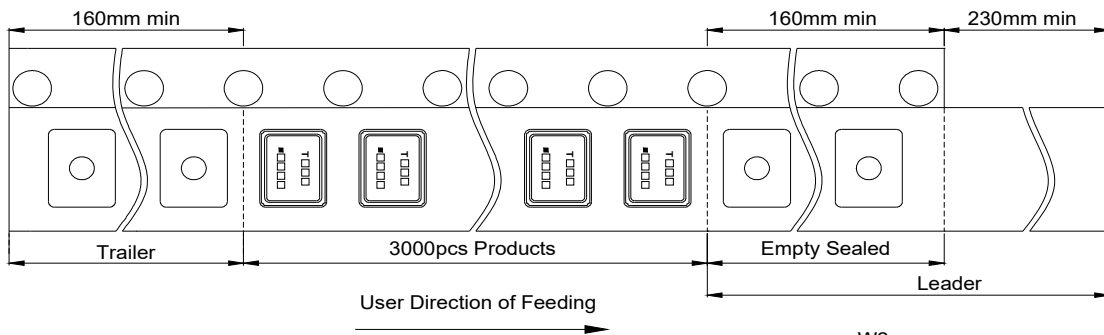
NO	COMPONENTS	MATERIALS	FINISH/SPECIFICATIONS
1	Lid	Kovar (Fe/Co/Ni)	-
2	Base(Package)	Ceramic (Al ₂ O ₃) + Kovar (Fe/Co/Ni)+Pad(Au)	-
3	PAD	AU	Tungsten metalize + Ni plating + Au plating
4	Crystal blank	SiO ₂	-
5	Conductive adhesive	Resin+Ag	-
6	Electrode	Noble Metal.	-

■ PACKING



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

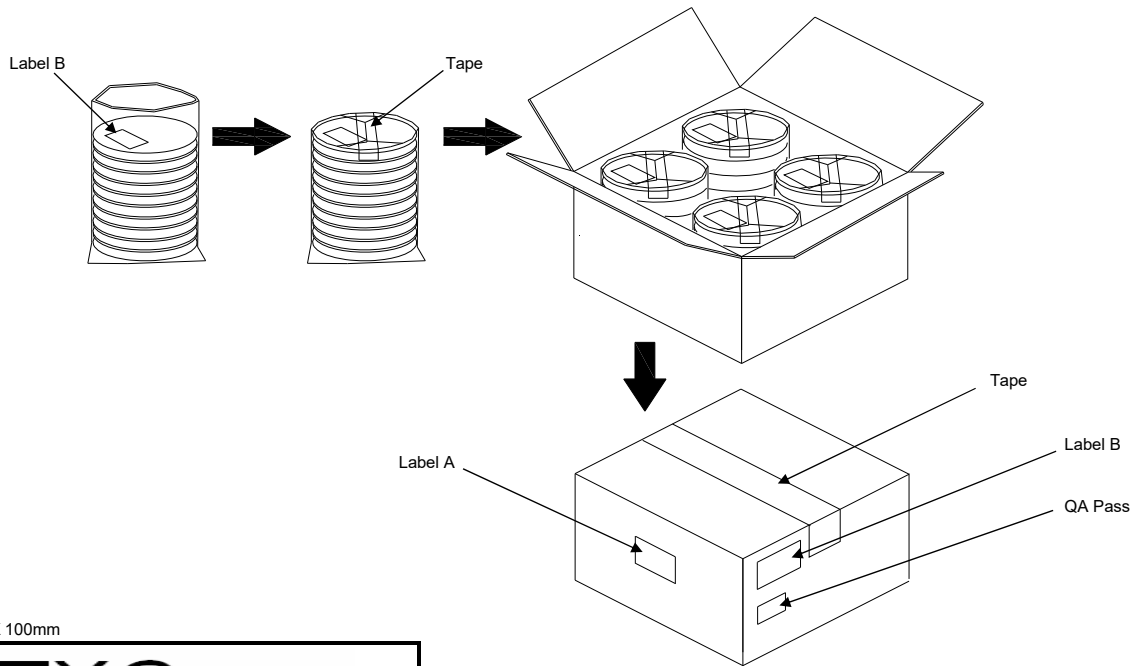
■ **PACKING**

Reel Quantity :

- 1. Reel X 6 (6 Reels)
- 2. Reel 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

<h1>TXC</h1>	
Inv No:	□□□□□□□□□□
Po No:	□□□□□□□□□□
Part No:	□□□□□□□□□□
Q'ty:	□□□□ PCS
C/No:	□□□□

(Label B) Size:80 X 40mm

TXC CORPORATION		QA PASS
DATE CODE:	□□□□□□□□	QTY: □□□□
LOT NO:	□□□□□□□□	<div style="border: 1px solid black; padding: 2px; display: inline-block;">RoHS</div> <div style="border: 1px solid black; padding: 2px; display: inline-block;">HF</div>
PART NO:	□□□□□□□□	
FREQ:	□□□□□□□□	

* 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. 0.5m sec. 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	Gross Leak	Standard Sample For Automatic Gross Leak Detector, Test Pressure: 2kg / cm ²	F
1.5	Fine Leak	Helium Bombing 4.5 kg/ cm ² for 2 Hrs	G
1.6	Solder ability	Temperature 240 °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	
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% , 500Hrs	B . C . D

RELIABILITY SPECIFICATIONS

Specifications	
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 2 hour, and measured.
E	Minimum 95% of immersed terminal shall be covered with new uniform solder.
F	Leak rate< 1×10^{-5} Pa*m ³ /Sec
G	Leak rate< 4×10^{-9} Pa*m ³ /Sec

Measurement condition

Electrical characteristics measured by S&A250B or equivalent.

APPLICATION NOTE

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. It is recommended to use product within 1 year after arrival because characteristics will deteriorate with time.
4. The product shall not be used for military uses, aerospace equipment, medical instruments to sustain life, automotive application, and others equivalent.
5. The product is intended for general use in electronic equipment, please contact us when using this product for industrial equipment.
6. Since the ultrasonic welding process may damage crystal resonator interior, we strongly recommend to verify the product by ultrasonic welding before using it if ultrasonic welding process has to be used.