



SPECIFICATION FOR APPROVAL

CUSTOMER : _____

PRODUCT TYPE : SMD SEAM SEALING X'TAL 2.5*2.0

NOMINAL FREQ. : 14.318180MHz

TXC P/N : 8Z14300001

REVISION : A2

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.

Attachment: Product Specification Sheet

- 1
- 2
- 3
- 4
- 5

RoHS Compliant



PRODUCT SPECIFICATION SHEET

PRODUCT TYPE : SMD SEAM SEALING X'TAL 2.5*2.0

NOMINAL FREQ. : 14.318180MHz

TXC P/N : 8Z14300001

REVISION : A2

PE/RD	QA	MFG
<i>Scott Chen</i>	<i>T.M. Yan</i>	<i>Jelly Teng</i>
<i>30-May-08</i>	<i>30-May-08</i>	<i>30-May-08</i>

NOTE:

- (1)Lead Free Products are "Directive 2002/95/EC of The European Parliament of 27 January 2003 on the restriction of the use of certain hazardous substances (RoHS) in electrical and electronic equipment" Compliant (Attachment: SGS Test Report).
- (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

RoHS Compliant

■ ELECTRICAL SPECIFICATIONS

Standard atmospheric conditions

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

Ambient temperature : $25 \pm 10^{\circ}\text{C}$
 Relative humidity : 40%~70%

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

Ambient temperature : $25 \pm 3^{\circ}\text{C}$
 Relative humidity : 40%~70%

Measure equipment

Electrical characteristics measured by HP E5100A or equivalent.

Crystal cutting type

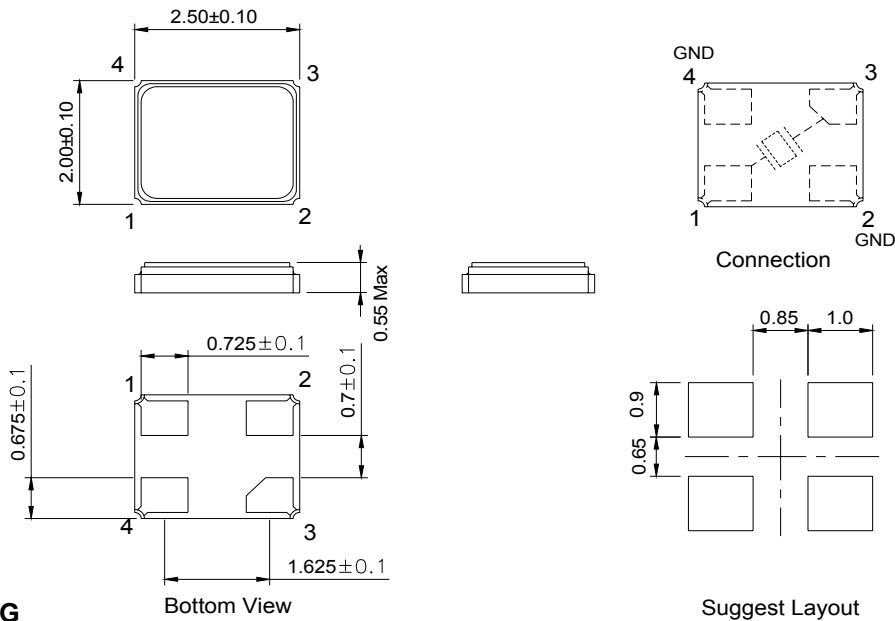
The crystal is using AT CUT (thickness shear mode).

Unit Weight:

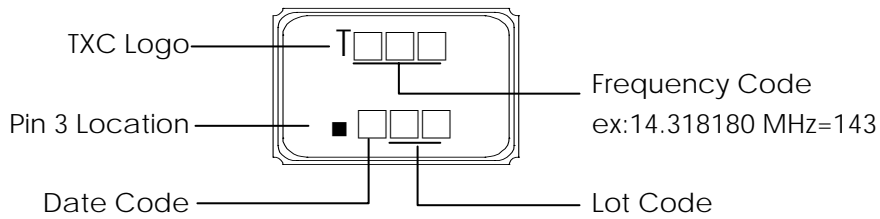
0.009 \pm 0.001 g/pcs

	Parameters	SYM.	Electrical Spec.				Notes
			MIN	TYPE	MAX	UNITS	
1	Nominal Frequency	FL	14.318180			MHz	-
2	Oscillation Mode	-	Fundamental			-	-
3	Load Capacitance	CL	20			pF	-
4	Frequency Tolerance	-	± 30			ppm	at $25^{\circ}\text{C} \pm 3^{\circ}\text{C}$
5	Frequency Stability	-	± 30			ppm	Over Operating Temp. Range (Reference 25°C)
6	Operating Temperature	-	-25	~	70	$^{\circ}\text{C}$	-
7	Aging	-	± 3			ppm	1st Year
8	Drive Level	DL	-	100	-	μW	-
9	Effective Resistance Rr	Rr	-	-	80	Ω	-
10	Shunt Capacitance C0	C0	-	-	5	pF	-
11	Insulation Resistance	-	500	-	-	M Ω	at DC 100V
12	Storage Temperature Range	-	-40	~	125	$^{\circ}\text{C}$	-

■ DIMENSIONS



■ MARKING



Date Code:

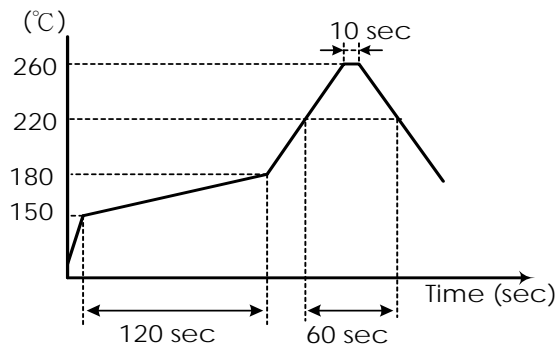
YEAR		MONTH													
		JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC		
2005	2009	2013	2017	A	B	C	D	E	F	G	H	J	K	L	M
2006	2010	2014	2018	N	P	Q	R	S	T	U	V	W	X	Y	Z
2007	2011	2015	2019	a	b	c	d	e	f	g	h	j	k	l	m
2008	2012	2016	2020	n	p	q	r	s	t	u	v	w	x	y	z

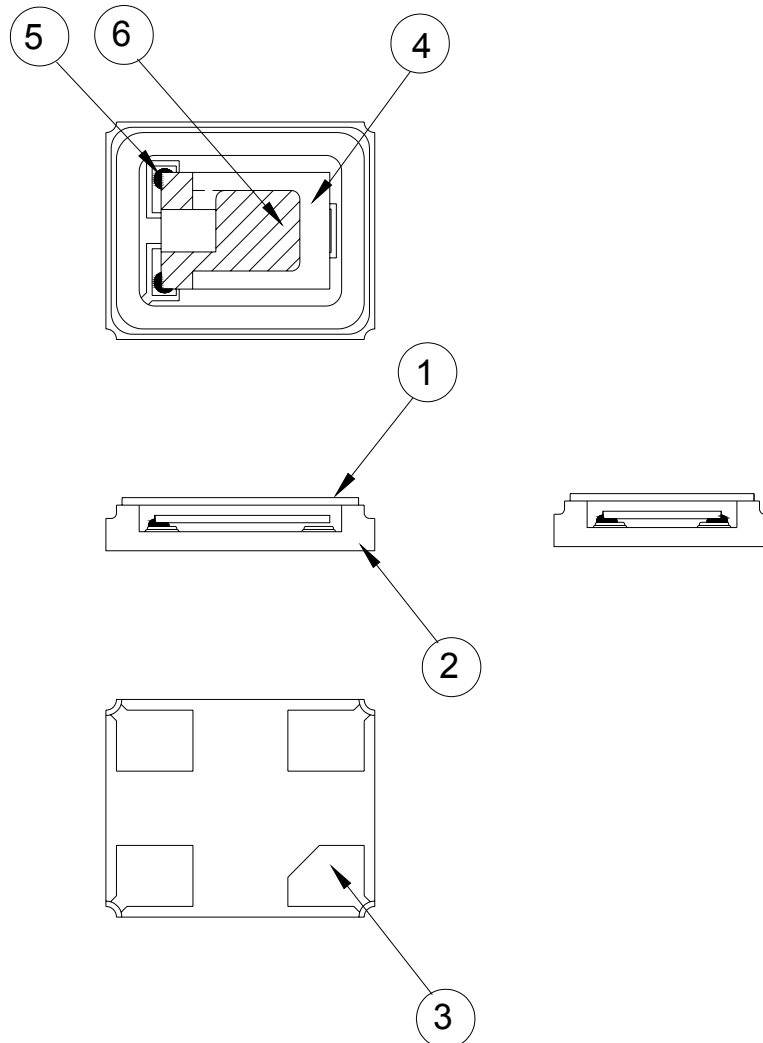
*This date code will be cycled every four years

Production location: Taiwan

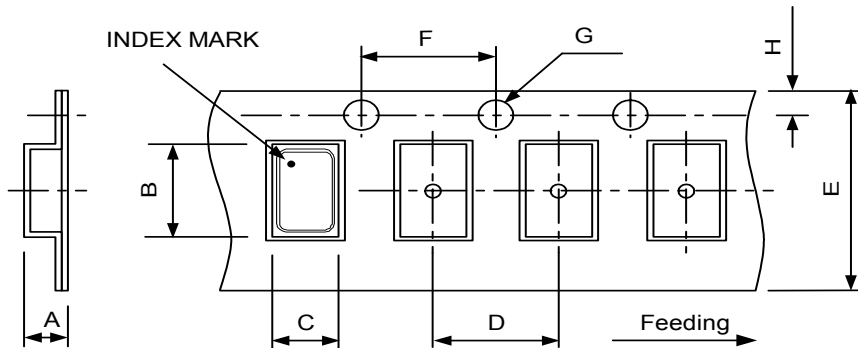
■ SUGGESTED REFLOW PROFILE

Total time : 200 sec. Max.
Solder melting point :220 °C

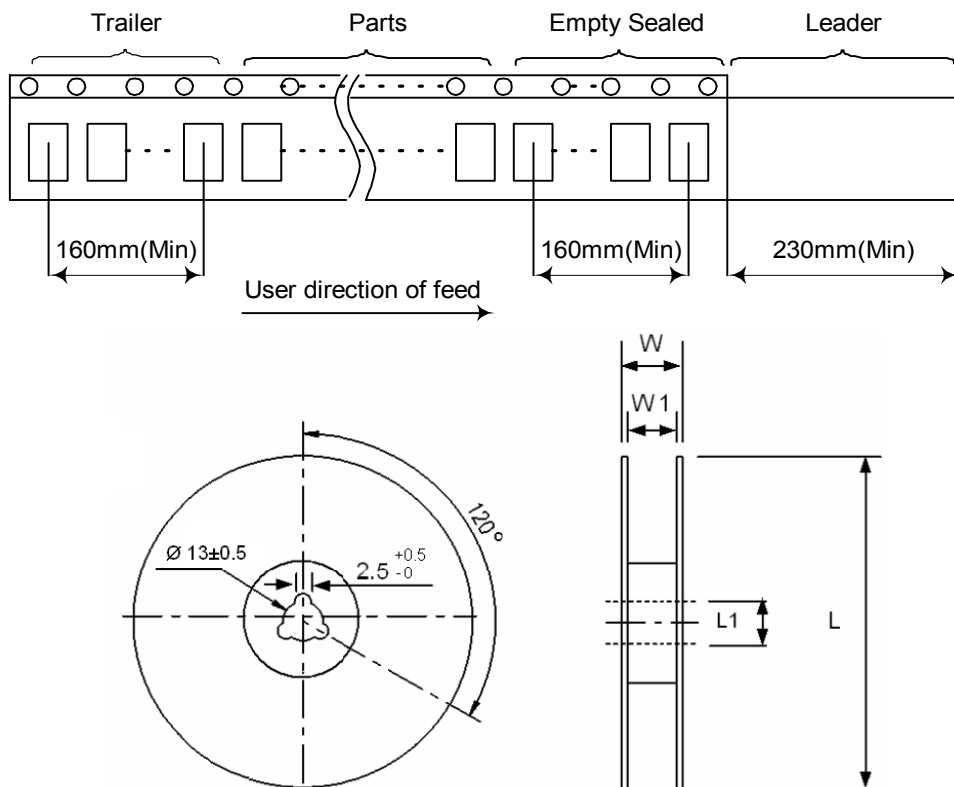


■ STRUCTURE ILLUSTRATION


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

PACKING : (EIA-481-2)


DIMENSIONS	A	B	C	D	E	F	G	H	(UNIT : mm)
	1.55 ± 0.05	2.7 ± 0.05	2.25 ± 0.05	4 ± 0.1	8 ± 0.2	4 ± 0.1	1.55 ± 0.05	1.75 ± 0.1	

REMARK :


DIMENSIONS	L	L1	W	W1	pcs / Reel (UNIT : mm)
	178±1	13± 0.5	11.5± 0.2	+1 8-0	Standard Reel Quantity is 3,000 pcs per reel

■ RELIABILITY SPECIFICATIONS

1. Mechanical Endurance

No.	Test Item	Test Methods	REF.DOC
1.1	Drop Test	150 cm height, 3 times on concrete floor.	JIS C6701
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	MIL-STD-202F
1.3	Vibration	Frequency range 10 ~ 2000 Hz Amplitude 1.52 mm/20G Sweep time 20 minute perpendicular axes each test time 4 hours (Total test time 12 hours)	MIL-STD-883E
1.4	Gross Leak	Standard Sample For Automatic Gross Leak Detector, Test Pressure: 2Kg / cm ²	MIL-STD-883E
1.5	Fine Leak	Helium Bombing 4.5 Kg/ cm ² for 2 hr	
1.6	Solder ability	Temperature 245 °C ± 5°C Immersing depth 0.5 mm minimum Immersion time 5 ± 1 seconds Flux Rosin resin methyl alcohol solvent (1 : 4)	MIL-STD-883E

2. Environmental Endurance

No.	Test Item	Test Methods	REF. DOC
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.	MIL-STD-202F
2.2	High Temp. Storage	+ 125 °C ± 3 °C for 500 ± 12 hours	MIL-STD-883E
2.3	Low Temp. Storage	- 40 °C ± 3 °C for 500 ± 12 hours	
2.4	Thermal Shock	Total 100 cycles of the following temperature cycle 	MIL-STD-883E
2.5	High Temp & Humidity	85°C ± 3°C, RH 85% , 500Hrs	JIS C5023
2.6	Pressure Cooker Storage	121 ± 3°C , RH100% , 2 bar , 240Hrs	JIS C6701