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SPECIFICATION FOR APPROVAL

		CN:0				
CUSTOMER	:					
PRODUCT TYPE	:	SMD GLASS SEALING X'TAL 3.2*2.5				
NOMINAL FREQ.		40.00000MHz				
TXC P/N		AV40070001				
REVISION		A1				
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

Pb used in sealing glass material is exempt from EU directive



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PRODUCT SPECIFICATION SHEET

		CN:
PRODUCT TYPE	:	SMD GLASS SEALING X'TAL 3.2*2.5
NOMINAL FREQ.	: _	40.00000MHz
TXC P/N	:	AV40070001
REVISION	: _	A1

PE/RD	QA	MFG
Wen yuan Chang	Zhong Lin Wha	zhi Jun Wu
Wen yuan Chang	ZhongLin Wu	Zhi jun Wu
17-Sep-17	17-Sep-17	17-Sep-17

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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RoHS Compliant

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Rev	Revise page	Revise contents	<u>Date</u>	Ref.No.	<u>Reviser</u>
S1	N/A	Initial released	10-Mar-17	N/A	Xiaohua Zhang
A1	N/A	S Turn A	17-Sep-17	N/A	Xiaohua Zhang

Spec Sheet Contents

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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 : $25\pm5^{\circ}$ C Relative humidity : $40\%\sim70\%$

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

Ambient temperature : $25\pm3^{\circ}$ C Relative humidity : $40\%\sim70\%$

Measure equipment

Electrical characteristics measured by S&A250B or equivalent.

Crystal cutting type

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

Unit Weight:

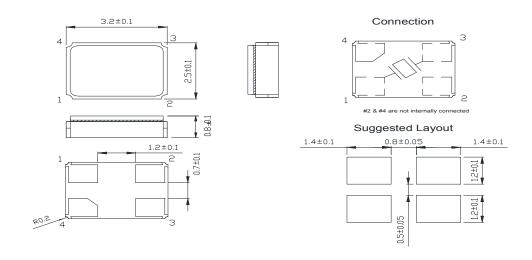
0.020±0.002 g/pcs

	Parameters	SYM.		Electric	al Spec.		Notes		
	Farameters	STIVI.	MIN	TYP	MAX	UNITS	Notes		
1	Nominal Frequency	FL	4	10.00000	0	MHz	-		
2	Oscillation Mode	-	Fı	undamen	tal	-	-		
3	Load Capacitance	CL		8		pF	-		
4	Frequency Tolerance	-	±20			ppm	at 25 ℃ ± 3 ℃		
5	Frequency Stability	-	±50		ppm	Over Operating Temp. Range (Reference 25°ℂ)			
6	Operating Temperature	-	-40	?	125	$^{\circ}\mathbb{C}$	-		
7	Aging	-		±3	=	ppm	1st Year at 25 °C ± 3 °C		
8	Drive Level	DL	10	100	200	uW	-		
9	Series Resonant Resistance	Rr	ı	ı	50	Ω	-		
10	Shunt Capacitance	C0	ı	ı	2	pF	-		
11	Insulation Resistance	-	500	-	-	ΜΩ	at DC 100V		
12	Storage Temperature Range	-	-40	~	125	$^{\circ}\mathbb{C}$	-		



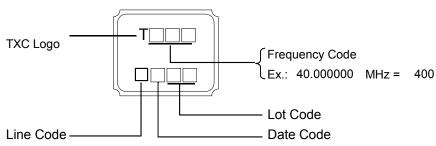
DIMENSIONS

(Unit:mm)



*Coplanarity of solderable areas Camber 0.10 mm Max

MARKING



Production Location: China (Ningbo)

Month Code:

YEA	λR		MOI	NTH	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	ОСТ	NOV	DEC
2005	2009	2013	2017	2021	Α	В	С	D	Е	F	G	Н	J	K	L	М
2006	2010	2014	2018	2022	N	Р	Q	R	S	Т	U	٧	W	Χ	Υ	Ζ
2007	2011	2015	2019	2023	а	b	С	d	е	f	g	h	j	k	I	m
2008	2012	2016	2020	2024	n	р	q	r	S	t	u	٧	W	Х	у	Z

^{*}This month code will be cycled every four years

■ SUGGESTED REFLOW PROFILE

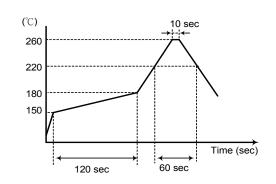
Solder melting point :220±10 $^{\circ}$ C, 60 sec. Min. Peak Temperature: 260 ± 5 $^{\circ}$ C, 10 sec. Max.

■ SUGGESTED MANUAL SOLDER CONDITION

Temperature: 350 ± 10 °C

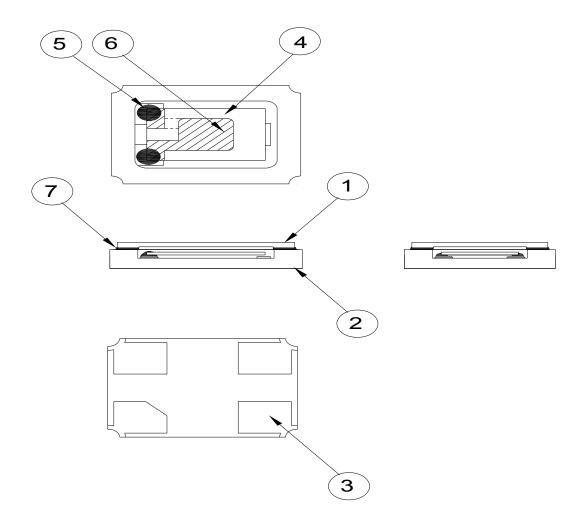
Time: 3 sec.

Re-solder times: twice





■ STRUCTURE ILLUSTRATION



NO	COMPONENTS	MATERIALS	FINISH/SPECIFICATIONS
1	Сар	Ceramic (Al ₂ O ₃)	-
2	Package	Ceramic (Al ₂ O ₃)	-
3	PAD	Au	Tungsten metalize
			+ Ni plating
			+ Au plating
4	Crystal blank	SiO ₂	-
5	Conductive adhesive	Resin+Ag	-
6	Electrode	Noble Metal	-
7	Sealing Glass	Glass(PbO)	-

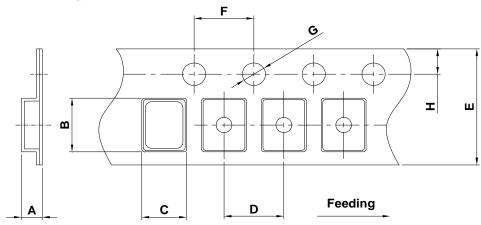


TXC P/N: AV40070001

REVISION: A1

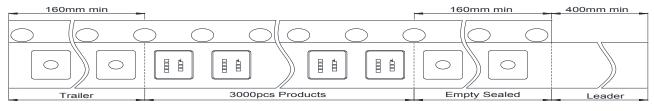
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■ EMBOSS CARRIER TAPE & REEL

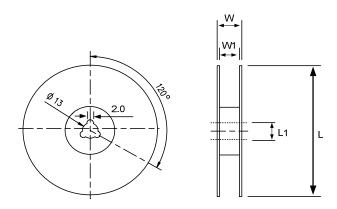


	Α	В	С	D	Е	F	G	Η	
DIMENSIONS	1.65 ±0.10	3.40 ±0.10	2.70 ±0.10	4.00 ±0.10	8.00 ±0.20	4.00 ±0.10	1.55 ±0.10	1.75 ±0.10	(UNIT : mm)

REMARK:



User Direction of Feeding



DIMENSIONS	L	L1	W	W1	
DIVILIVOIONO	178±1.00	13±0.50	11.5±0.20	8±0.10	(UNIT: mm)



PACKING

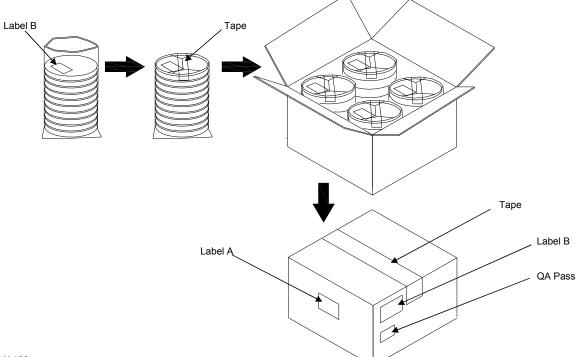
Reel Quantity:
1. Reel X 6 (6 Reels)
2. Reel X 12 (12 Reels)
3. Reel X 25 (12 Reels + 13 Reels)

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

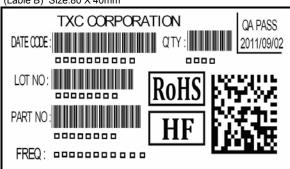
Po No: 21106326- 24- 1

Part No: DDDDDDD

Qty: 40000 PCS

C/No: 157- 44

(Lable B) Size:80 X 40mm



[STORAGE]

- 1.Don't be caught in the rain.
- 2.The storage environment shall be $5^\circ\mathbb{C}$ ~40 $^\circ\mathbb{C}$ 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.

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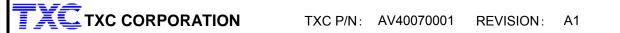
■ RELIABILITY SPECIFICATIONS (AEC-Q200 Compliant)

1.Mechanical Endurance

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

2. Environmental Endurance

No.	Test Item	Test Methods	SPEC
2.1	Resistance To Soldering Heat	Test temperature 260 +/- 5 °C Test time 10 +/- 1 sec.	BCD
2.2	High Temp. Storage	+ 125°C ± 3 °C for 1000 ± 12 Hrs	BCD
2.3	Low Temp. Storage	- 40 °C ± 3 °C for 1000 ± 12 Hrs	BCD
2.4	Temperature cycle	-40°C ~125°C ,for 1000 cycles. 1 cycle 125+/-3°C 25°C -40+/-3°C 15 min. 2min	BCD
2.5	Operational Life	1000 hrs @ 125± 3°C. Rated VDD applied with 1 MΩ.	BCD
2.6	High Temp & Humidity	85°C ± 3°C ,RH 85%,1000 Hrs	BCD



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RELIABILITY SPECIFICATIONS

Specifications	
А	Frequency change: Within ±5ppm or in customer's specification.
В	Frequency change: Within ±10ppm or in customer's specification.
С	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 condition

Electrical characteristics measured by S&A250B or equivalent.