



TXC CORPORATION

4F, NO. 16, Sec. 2 Chung Yang S Rd., Peitou, Taipei, Taiwan.

TEL : 886-2-2894-1202 , 886-2-2895-2201 FAX : 886-2-2894-1206 , 886-2-2895-6207

www.txccorp.com

SPECIFICATION FOR APPROVAL

CUSTOMER	:	
PRODUCT TYPE	:	SMD T7 TYPE
NOMINAL FREQ.	:	32.768KHz
TXC P/N	:	9H03200413
REVISION	:	A3
CUSTOMER P/N	:	
PM / SALES	:	
DATE	:	13-Feb-12
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

Pb used in internal connecting (Sn:Pb=10:90) is exempt from EU directive



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PRODUCT SPECIFICATION SHEET

PRODUCT TYPE : SMD T7 TYPE

NOMINAL FREQ. : 32.768KHz

TXC P/N : 9H03200413

REVISION : A3

PE/RD	QA	MFG
<i>Simon Wang</i>	<i>Ten Ksieh</i>	<i>Shu-Chen ko</i>
13-Feb-12	13-Feb-12	13-Feb-12

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

Pb used in internal connecting (Sn:Pb=10:90) is exempt from EU directive



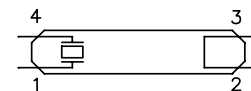
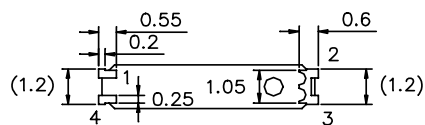
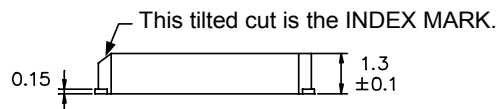
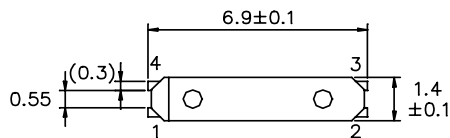
<u>Rev</u>	<u>Revise page</u>	<u>Revise contents</u>	<u>Date</u>	<u>Ref.No.</u>	<u>Reviser</u>
A1	N/A	Initial released	26-Feb-07	N/A	Yachuan Miao
A2	2	刪除 Freq Stability Over Temperature Range: -10℃TO+60℃	31-Aug-07	ECN-07P083104	Yachuan Miao
A3	N/A	Form Change " E "	19-Apr-10	ECN-08P112702	Shu-Chen Ko

ELECTRICAL SPECIFICATIONS

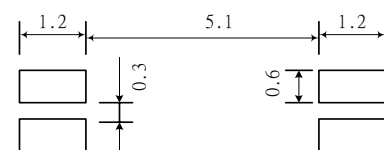
	Parameters	SYM.	Electrical Spec.				Notes
			MIN	TYPE	MAX	UNITS	
1	Nominal Frequency	F0	32.768			KHz	-
2	Frequency Tolerance	-	± 20			ppm	at 25 °C
3	Driver Level	DL	-	-	1	uW	-
4	Load Capacitance	CL	12.5			pF	-
5	Series Resistance	-	-	-	65	KΩ	-
6	Peak Temperature (Frequency)	-	-	-	-	-	at 25 °C ±5°C
7	Frequency-Temperature coefficient	-	-	-	-4*10 ⁻⁸	°C ²	-
8	Storage Temperature	-	-55	~	125	°C	-
9	Operating Temperature	-	-40	~	85	°C	-
10	Shunt Capacitance	C0	-	0.8	-	pF	-
11	Motional Capacitance	C1	-	1.9	-	fF	-
12	Insulation Resistance	-	500	-	-	MΩ	at DC 100V±15V
13	Aging	-	±3			ppm	1st Year

DIMENSIONS

(UNIT:mm)


Connection

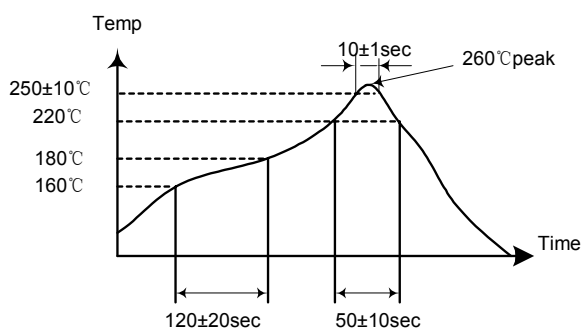
Do not connect pin 2 and pin 3 to external device.


Suggested Layout

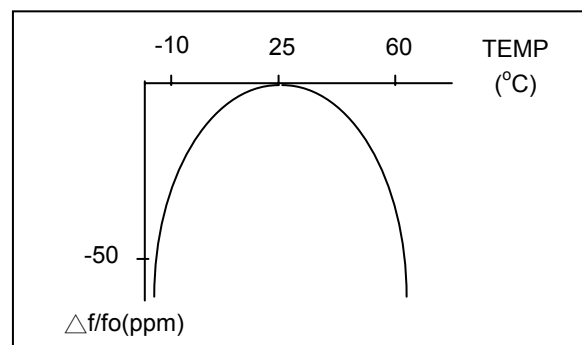
SUGGESTED REFLOW PROFILE

Total time : 200 sec. Max.

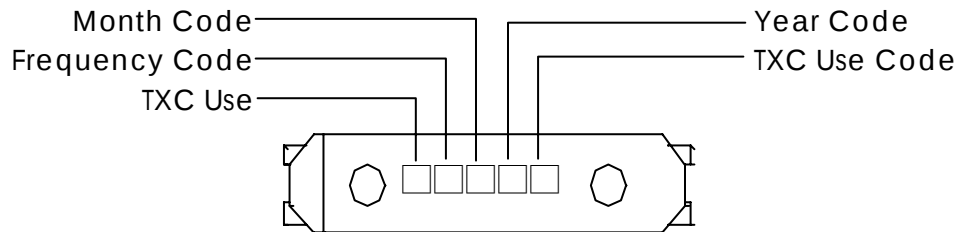
Solder melting point :220°C



TEMPERATURE V.S FREQUENCY CURVE



MARKING



Frequency Code:

KHz	CODE
32.768	3
76.000	7

Monthe Code:

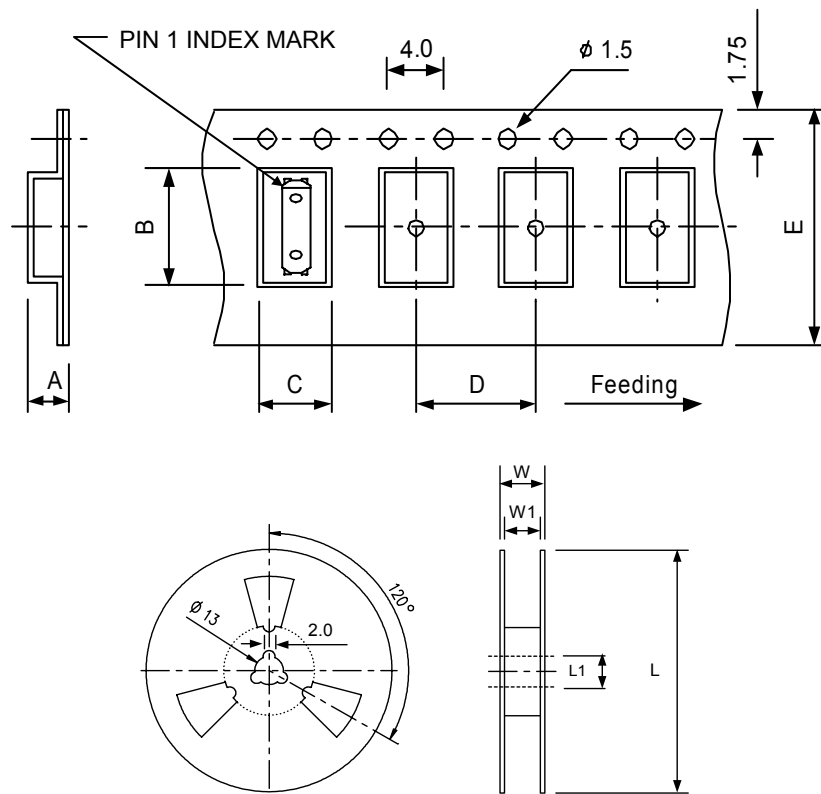
JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
A	B	C	D	E	F	G	H	J	K	M	N

Year Code:

2010	A	2016	G
2011	B	2017	H
2012	C	2018	J
2013	D	2019	K
2014	E	2020	L
2015	F	2021	M

Production location: Taiwan

PACKING : (EIA-481-2)



DIMENSIONS	A	B	C	D	E	L	L1	W	W1	pcs / Reel
	1.6	7.3	1.6	8	16	330	13	24.3	17.3	3K

- REMARK :
- 230 mm (9.05) minimum leader which consist of carrier and/or tape followed by a minimum of 160 mm (6.3) of empty carrier tape sealed with cover tape.
 - 160 mm (6.3) minimum trailer of empty carrier tape sealed with cover tape.

MATERIAL

Components part	Material name	Weight ratio (w%)	Major substance	CAS No.
Crystal chip	Silica cristobalite	About 1.0	Silica cristobalite (SiO ₂)	14464-46-1
			Gold (Au)	7440-57-5
Resin	Expoxy resin	35~45	Silica (SiO ₂)	60676-86-0
			Epoxy Resin	-
			Phenol Resin	-
			Carbon Black	1333-86-4
Lead flame	42 alloy	5~10	Iron (Fe)	7440-50-8
			Nickel (Ni)	7440-02-0
			Sn Bi	
Case	Nickel Silver	35~42	Copper (Cu)	7440-50-8
			Nickel (Ni)	7440-02-0
			Zinc (Zn)	7440-66-6
Plug		10~15	Silica amorphous (SiO ₂)	
			Nickel (Ni)	7440-02-0
			Iron (Fe)	7439-89-6
			Sn Pb	

■ RELIABILITY SPECIFICATIONS

No.	Test Item	Test Methods	REF.DOC
1	Heat Shock	-40℃~85℃, Dwell:30 min, 20 Cycles	MIL-STD-883
2	Vibration Test	Freq. 10~60Hz, Amplitude 1.5mm, 3 Direction each 2hours.	MIL-STD-883
3	Mechanical Shock Test	75 cm Height, 3 times wooden board	-
4	Solder Heat Resistance	Peak 260℃ , 255 ± 5℃ 2times	