



TXC CORPORATION

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SPECIFICATION FOR APPROVAL

CUSTOMER : _____

PRODUCT TYPE : SMD TUNING FORK 3.2X1.5

NOMINAL FREQ. : 32.768KHz

TXC P/N : 9H03200022

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.

Attachment: Product Specification Sheet

- 1
- 2
- 3
- 4
- 5

RoHS Compliant



PRODUCT SPECIFICATION SHEET

PRODUCT TYPE : SMD TUNING FORK 3.2X1.5

NOMINAL FREQ. : 32.768KHz

TXC P/N : 9H03200022

REVISION : S1

RD	QA	MFG
王敬和		
9-Mar-11		

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

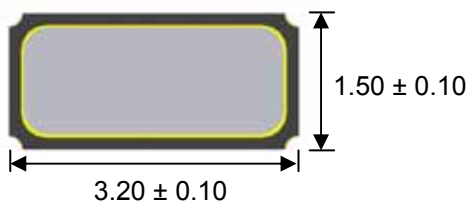
RoHS Compliant

ELECTRICAL SPECIFICATIONS

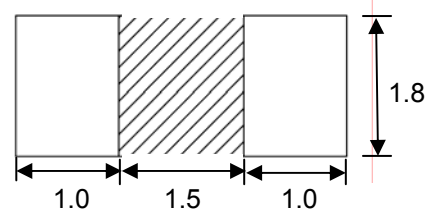
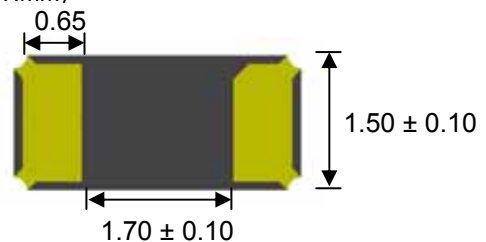
	Parameters	SYM.	Electrical Spec.				Notes
			MIN	TYPE	MAX	UNITS	
1	Nominal Frequency	F0	32.768			KHz	-
2	Frequency Tolerance	-	± 20			ppm	at 25
3	Driver Level	DL	-	0.1	0.5	uW	-
4	Load Capacitance	CL	9.0			pF	-
5	Series Resistance	-	-	-	70	KΩ	-
6	Peak Temperature (Frequency)	-	20	25	30		at 25 ±5
7	Frequency-Temperature coefficient	-	-	-	-4.0×10^{-8}	²	-
8	Storage Temperature	-	-55	~	125		-
9	Operating Temperature	-	-40	~	85		-
10	Shunt Capacitance	C0	-	1.4	-	pF	
11	Motional Capacitance	C1	-	5.7	-	fF	
12	Insulation Resistance	-	500	-	-	MΩ	at DC 100V±15V
13	Aging	-	±3			ppm	1st Year

DIMENSIONS

(UNIT:mm)

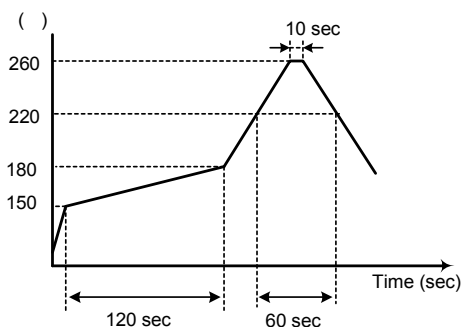
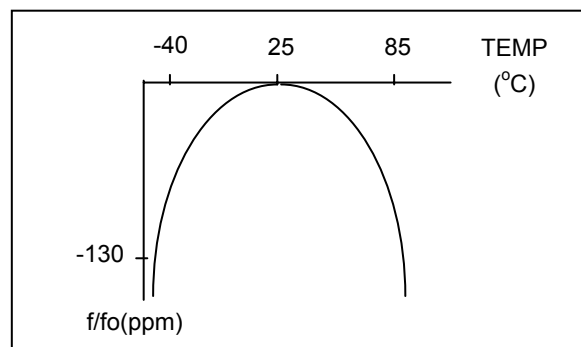

RECOMMENDED SOLDER PAD

(UNIT:mm)


SUGGESTED REFLOW PROFILE

Total time : 200 sec. Max.

Solder melting point :220


TEMPERATURE V.S FREQUENCY CURVE


MARKING

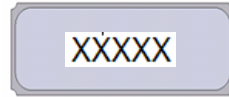
Frequency /CL Code

KHz	PF	CODE
32.768	12.5	A
32.768	9.0	B
32.768	7.0	C
32.768	6.0	D

TXC Use

Frequency/CL Code

Date Code

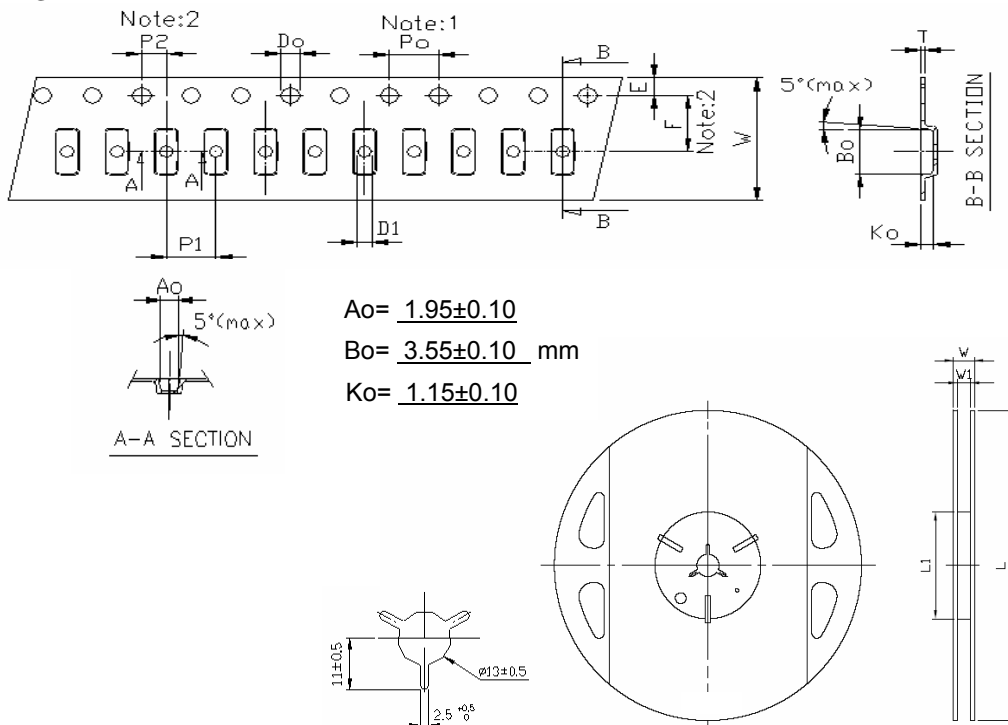


TXC Use Code

Date Code

YEAR \ MONTH					JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
					A	B	C	D	E	F	G	H	J	K	L	M
2001	2005	2009	2013	2017	N	P	Q	R	S	T	U	V	W	X	Y	Z
2002	2006	2010	2014	2018	a	b	c	d	e	f	g	h	j	k	l	m
2003	2007	2011	2015	2019	n	p	q	r	s	t	u	v	w	x	y	z
2004	2008	2012	2016	2020												

This date code will be cycled every four years

PACKING


DIMENSIONS	K1	P0	P1	P2	D0	D1	E	F	10P0	W	T	pcs / Reel
	-	4	4	2	1.55	1.1	1.75	3.5	40	8	0.25	3K

REEL DIMENSIONS	W	W1	L	L1
	11.5±0.2	8.0+1/-0	178±1	60.2±0.5

- 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.

RELIABILITY SPECIFICATIONS
1.Mechanical Endurance

No.	Test Item	Test Methods	REF. DOC
1.1	Drop Test	150 cm height, fall freely onto concrete floor 3 times.	MIL-STD-202
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-202
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-883
1.4	Solderability	Temperature 245 ± 5 Immersing depth 0.5 mm minimum Immersion time 5 ± 1 seconds Flux Rosin resin methyl alcohol solvent (1 : 4)	MIL-STD-883

2.Environmental Endurance

No.	Test Item	Test Methods	REF. DOC
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.	MIL-STD-202
2.2	High Temp. Storage	+ 125 ± 3 for 1000 ± 12 hours	MIL-STD-883
2.3	Low Temp. Storage	- 40 ± 3 for 1000 ± 12 hours	MIL-STD-883
2.4	Thermal Shock	Total 100 cycles of the following temperature cycle 	MIL-STD-883
2.5	Pressure Cooker Storage	121 ± 3 , RH100%, 2 bar, for 240 hours	JIS C6701
2.6	High Temp & Humidity	85 ± 3 , RH 85% , 1000Hrs	JIS C5023