



深 圳 市 科 源 信 科 技 有 限 公 司

Shenzhen KeYuanXin Technology CO.,LTD

产 品 规 格 书

SPECIFICATION FOR APPROVAL

深圳市福田区振华路 118 号华丽装饰一栋西座 306A
306A Block West Building 1, Huali Decoration
NO.118 Zhenhua Road Futian District Shenzhen
电话 TEL: 4008-735-535 传真 FAX: 0755-23616323



Product Name:

Crystal

Product Type:

SMD 2012

Nominal Freq:

32.768KHz

ProvideBrand:

TXC

P/N:

9H03200012

Customer P/N:

Approved By Customer

Signature:

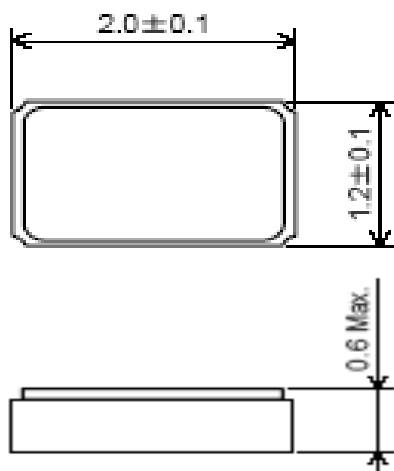
Date:

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	-	0.1	0.5	uW	-
4	Load Capacitance	CL	12.5			pF	-
5	Series Resistance	-	-	-	90	K Ω	-
6	Peak Temperature (Frequency)	-	20	25	30	°C	at 25 °C $\pm 5^{\circ}\text{C}$
7	Frequency-Temperature coefficient	-	-	-	-4.0×10^{-8}	$^{\circ}\text{C}^2$	-
8	Storage Temperature	-	-55	~	125	°C	-
9	Operating Temperature	-	-40	~	85	°C	-
10	Shunt Capacitance	C0	-	1.3	-	pF	-
11	Motional Capacitance	C1	-	6.4	-	fF	-
12	Insulation Resistance	-	500	-	-	M Ω	at DC 100V $\pm 15\text{V}$
13	Aging	-	± 5			ppm	1st Year

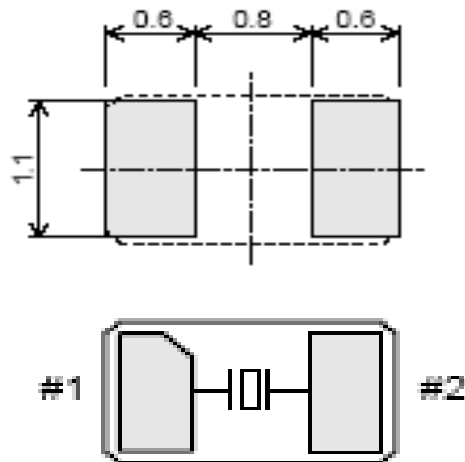
DIMENSIONS

(UNIT:mm)



RECOMMENDED SOLDER PAD

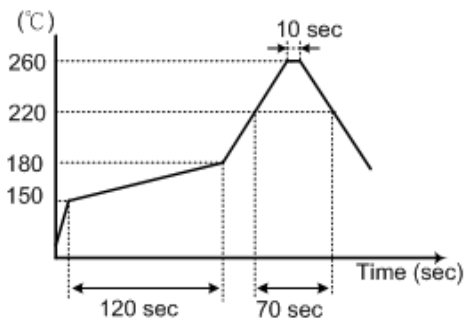
(UNIT:mm)



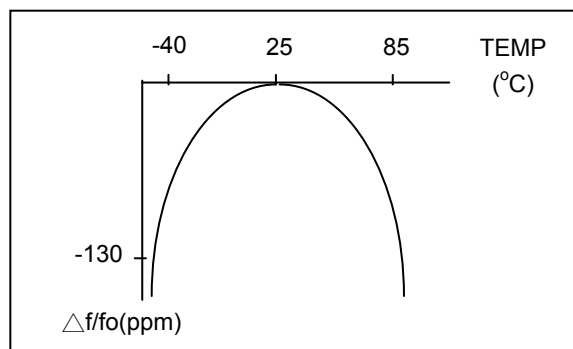
SUGGESTED REFLOW PROFILE

Total time : 200 sec. Max.

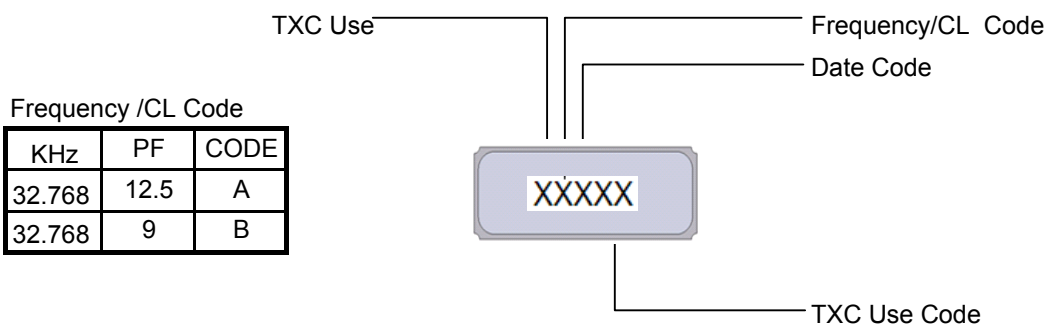
Solder melting point :220°C



TEMPERATURE V.S FREQUENCY CURVE



■ MARKING

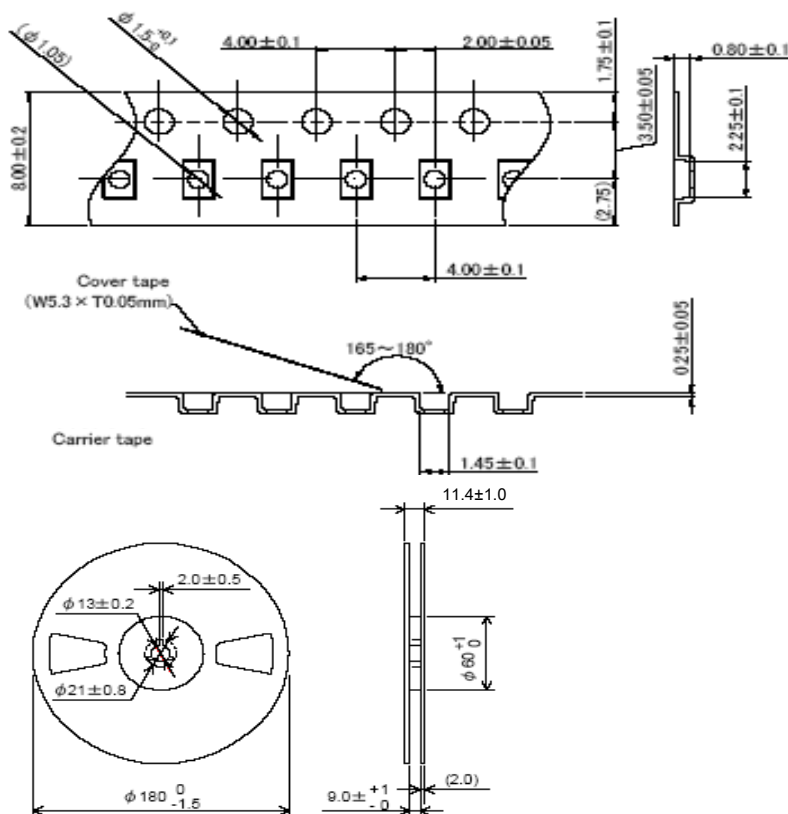


Date Code

YEAR					MONTH											
					JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
2001	2005	2009	2013	2017	A	B	C	D	E	F	G	H	J	K	L	M
2002	2006	2010	2014	2018	N	P	Q	R	S	T	U	V	W	X	Y	Z
2003	2007	2011	2015	2019	a	b	c	d	e	f	g	h	j	k	l	m
2004	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

■ PACKING (UNIT:mm)

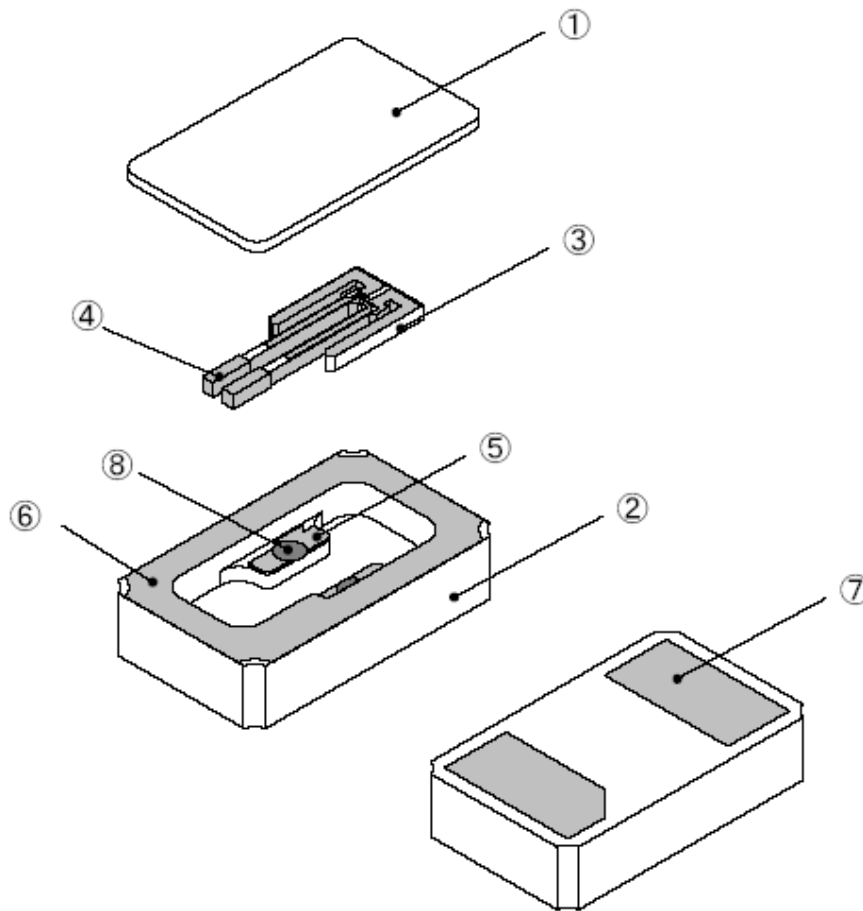


Amount	PCS/REEL
	3K

3000 pieces of taped crystal units are put into a packing reels

- 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.

STRUCTURE ILLUSTRATION



NO	COMPONENTS	MATERIALS	QTY	FINISH/SPECIFICATIONS
1	Lid	Clad Metal	1	Ni+Kovar+Cu-Ni+Silver Solder (Ag-Cu-Sn)
2	Base(Package)	Ceramic(Al_2O_3)	1	Color Black
3	Crystal blank	SiO_2	1	-
4	Electrode	Noble Metal	2	Cr+Au
5	Internal terminals	Au	2	Tungsten metallize + Ni plating + Au plating
6	Metallize for sealing	Au	1	Tungsten metallize + Ni plating + Au plating
7	PAD	Au	2	Tungsten metallize + Ni plating + Au plating
8	Conductive adhesive	Ag	2	Silicon resin

■ 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.	JIS C6701
1.2	Mechanical Shock	Device are shocked to half sine wave (1000 G) three mutually perpendicular axes each 3 times. 1m sec. duration time	JIS C60068-2-27
1.3	Vibration	Frequency range 10 ~ 55 Hz Amplitude 1.5 mm,20G Sweep time 1 minute Perpendicular axes each test time 2 hours (Total test time 6 hours)	JIS C60068-2-6
1.4	Solderability	Temperature 255 °C ± 5°C Immersing depth 0.5 mm minimum Immersion time 3.5 ± 0.5 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 160 °C Pre-heat time 90 ± 10 sec. Test temperature 260 ± 5 °C Test time 5 ± 1 sec.	MIL-STD-202F
2.2	High Temp. Storage	+ 100 °C ± 3 °C for 100 ± 12 hours	JIS C600682-2
2.3	Low Temp. Storage	- 40 °C ± 3 °C for 1000 ± 12 hours	JIS C600682-1
2.4	Thermal Shock	Total 100 cycles of the following temperature cycle 	JIS C0025
2.5	Pressure Cooker Storage	121 ± 3°C, RH100%, 2 bar, for 240 hours	JIS C6701
2.6	High Temp & Humidity	40°C ± 3°C, RH 90~95% , 1000Hrs	JIS C600682-3



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