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	:	HC-49/S SMD
NOMINAL FREQ.	:	8.000000MHz
TXC P/N	:	AT08000001
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.

Attachment: Product Specification Sheet

1
2
3
4
5

RoHS Compliant

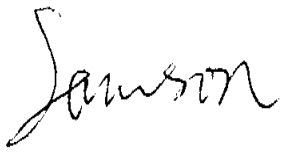
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PRODUCT SPECIFICATION SHEET

PRODUCT TYPE	:	HC-49/S SMD
NOMINAL FREQ.	:	8.000000MHz
TXC P/N	:	AT08000001
REVISION	:	A1

PE/RD	QA	MFG
		
2010/5/17	*2010/1/26*	*2010/1/26*

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

Rev	Revise page	Revise contents	Date	Ref.No.	Reviser
A1	N/A	Initial Released	2010/1/26	N/A	Xiaoyan Jiang

CONTENT

SPECIFICATIONS	PAGE
• ELECTRICAL SPECIFICATIONS	4
• DIMENSIONS	5
• SUGGESTED REFLOW PROFILE	5
• MARKING	6
• PACKING	7
• RELIABILITY SPECIFICATIONS	8

ATTACHMENT(S) (optional)

TESTING DATA

- ELECTRICAL CHARACTERISTICS TEST — A ☐ YES ☑ NO
- TEMPERATURE CHARACTERISTICS TEST — B ☐ YES ☑ NO

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+/-5°C

Relative humidity : 40%~70%

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

Ambient temperature : 25+/-1°C

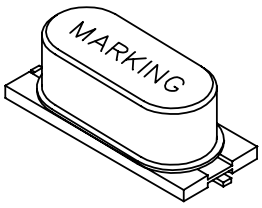
Relative humidity : 40%~70%

Measure equipment

SAUNDERS 250A/250B CRYSTAL IMPEDANCE METER.

Crystal cutting type

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

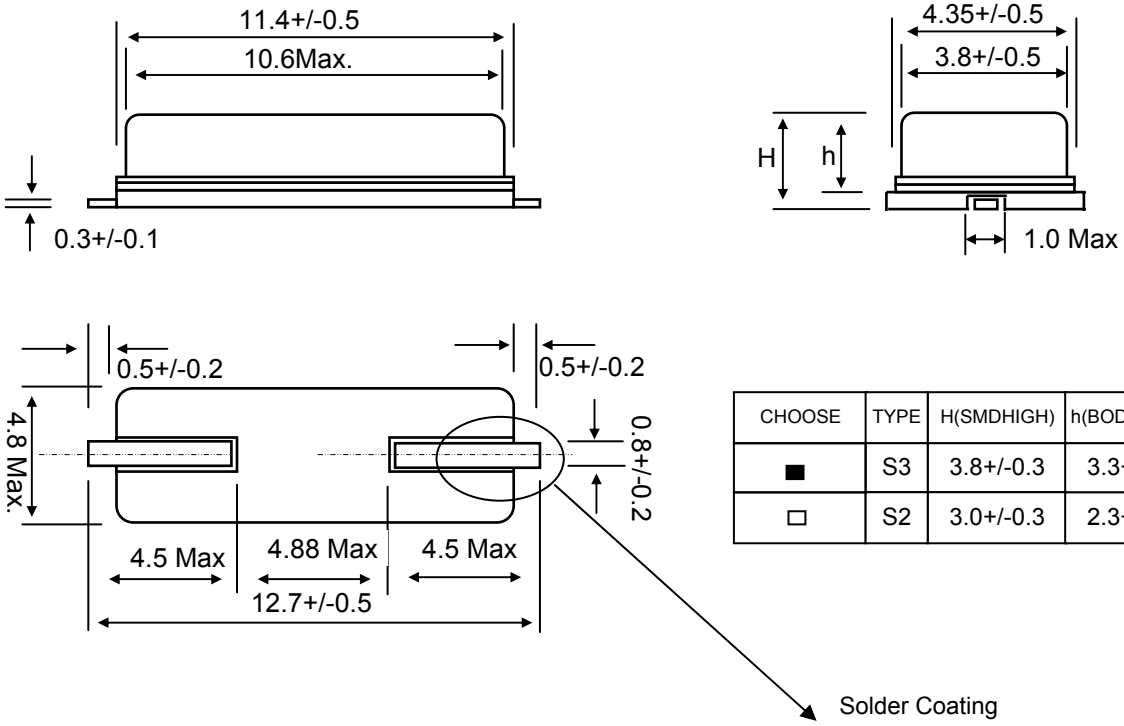


please refer to marking code page

1.	Nominal Frequency	8.000000 MHz
2.	Oscillation Mode	Fundamental
3.	Load Capacitance	12.0 pF
4.	Frequency Tolerance (25 °C)	+/- 50 ppm
5.	Effective Series Resistance	80 Ohms Max.
6.	Shunt Capacitance (C0)	5.0 pF Max.
7.	Motional Capacitance (C1)	N/A
8.	Drive Level	100 uW Typ.
9.	Operation Temperature Range	-40 °C ~ +85 °C
10.	Stability Over Temperature Range	+/- 100 ppm (related to 25 °C)
11.	Insulation Resistance	500 MOhms Min. at DC 100V
12.	Attenuation of Spurious Frequency Amplitude	N/A
13.	Ratio of Holder to Motional (C0/1)	N/A
14.	Storage Temperature	-40 °C ~ +85 °C
15.	Aging	+/- 5.0 ppm/year

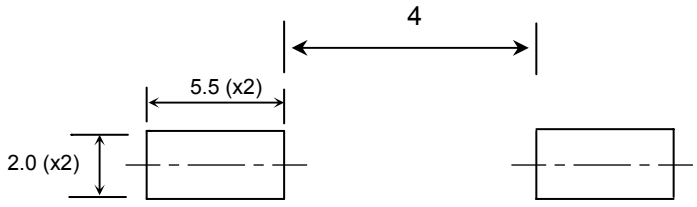
DIMENSIONS

UNIT:mm



CHOOSE	TYPE	H(SMDHIGH)	h(BODY HIGH)
■	S3	3.8+/-0.3	3.3+/-0.3
□	S2	3.0+/-0.3	2.3+/-0.3

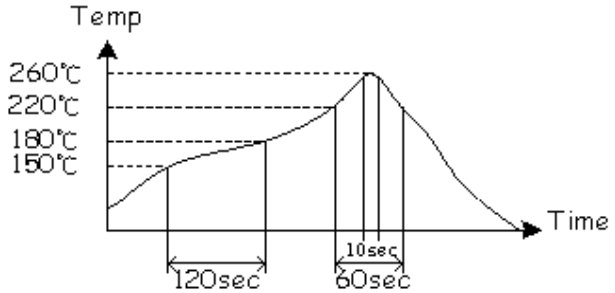
Suggested Layout



SUGGESTED REFLOW PROFILE

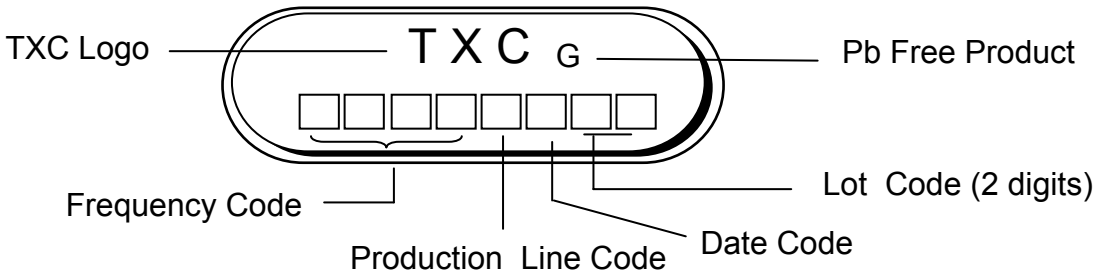
Total time : 200 sec. Max.

Solder melting point :220 °C



MARKING

Marking For Pb Free Parts：



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.

For example： Marking

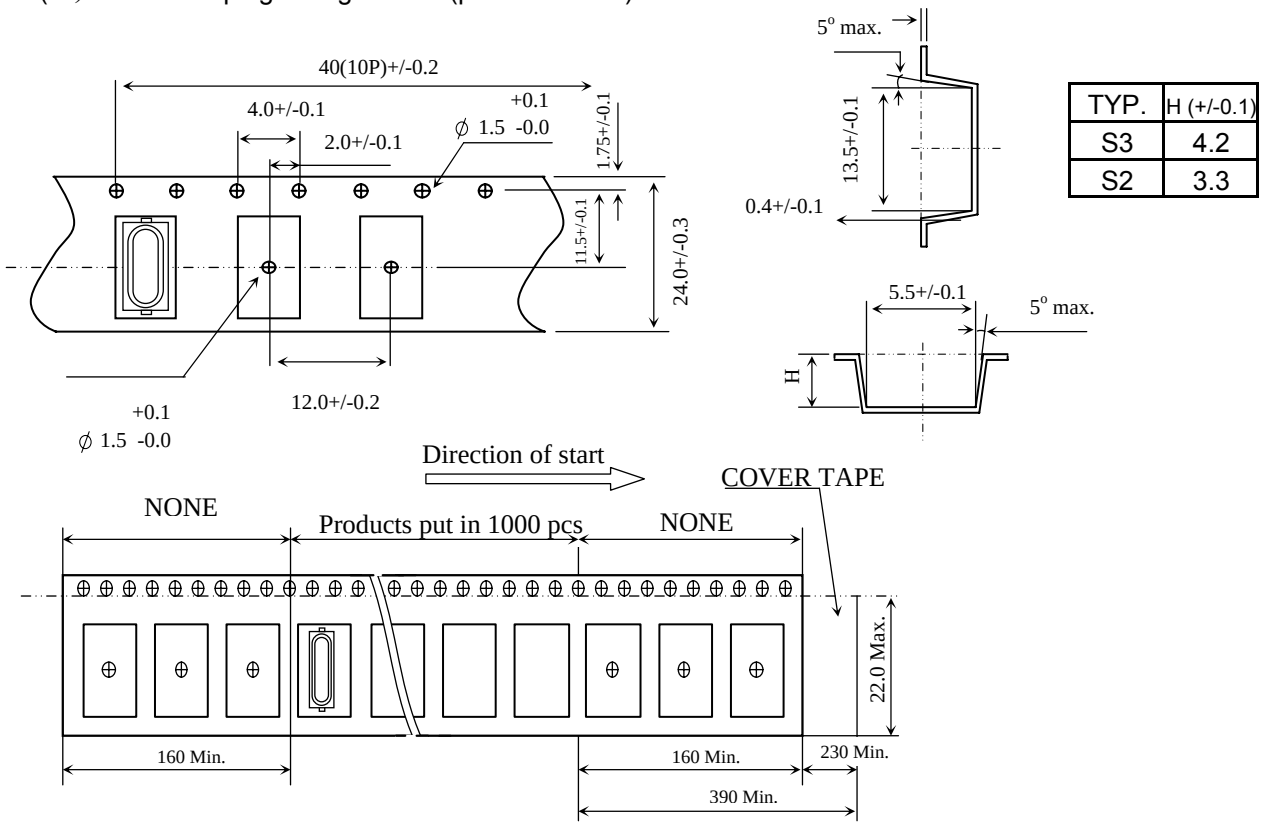


→

Introduction： Pb Free Product
49S 8.000 MHz
Made in NGB 2010/JAN 01Lot

(A) Tape and reel configuration:(Unit：mm)

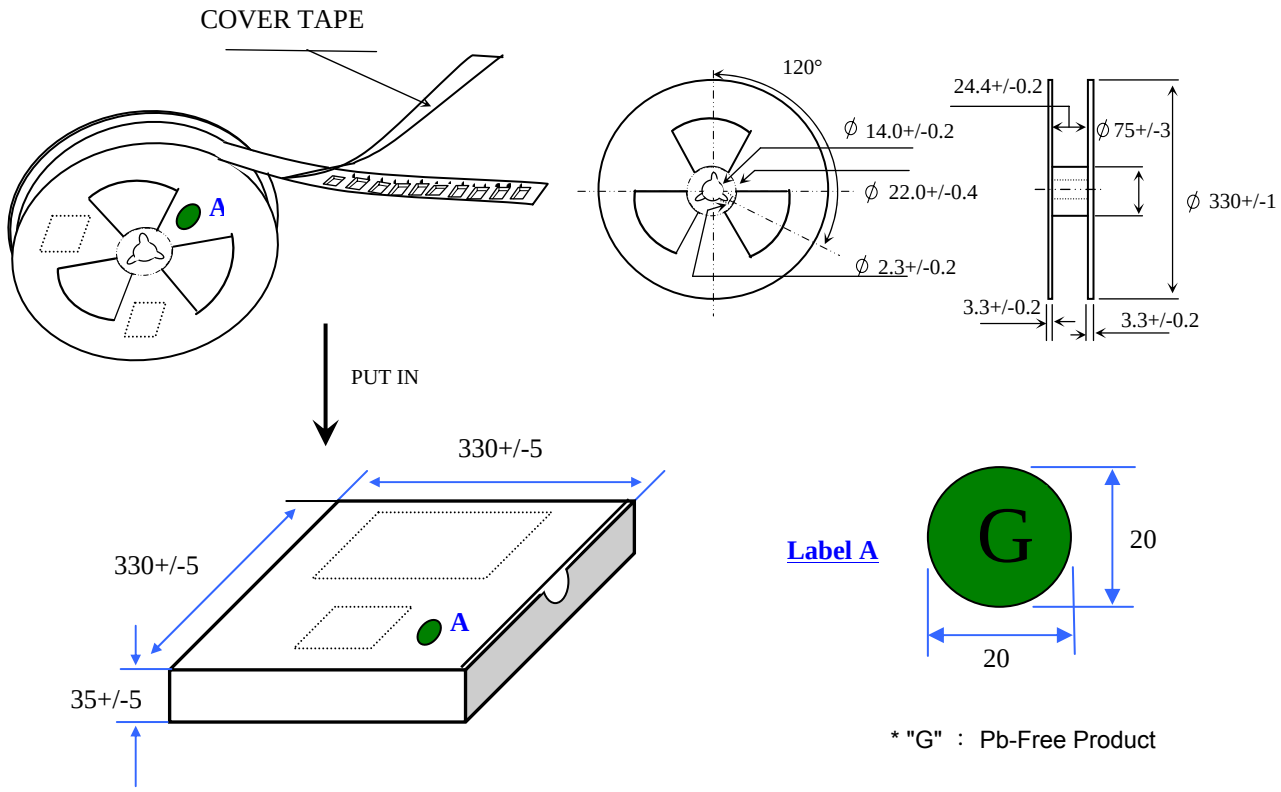
(a) Emboss taping configuration. (per EIA-481-2)



TYP.	H (+/-0.1)
S3	4.2
S2	3.3

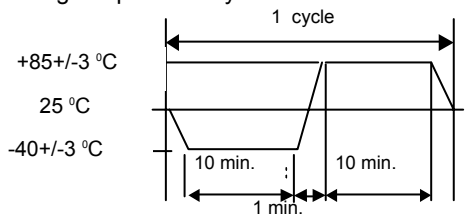
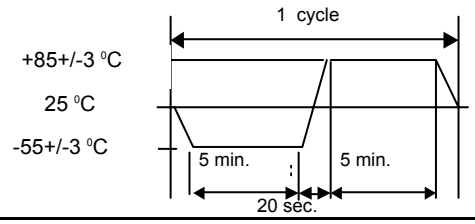
(b) Reel configuration.

(B) Packing & Label :(Unit：mm)



* "G" ： Pb-Free Product

RELIABILITY SPECIFICATIONS

No.	Test Item	Test Methods	REF.DOC
1	Mechanical Shock	Device are shocked to half sine wave (1000 G) three mutually pendicular axes each 3 times(total 18shocks). 0.5m sec. duration time	MIL-STD-202
2	Vibration	Frequency range 10 ~ 2000 Hz Acceleration 5G Sweep time 20 minute Pendicular axes each test time 4 hours (Total test time 12 hours)	MIL-STD-202
3	Terminal Strength	17.7N force for 60sec +/-1sec.	AEC-Q200-006
4	Board Flex	2mm for 60(+5)sec.	AEC-Q200-005
5	High Temp. Storage	+ 85 ºC +/- 2 ºC for 1000 +/- 12 hours	MIL-STD-202
6	Low Temp. Storage	- 40 ºC +/- 2 ºC for 96 +/- 2 hours	IEC68
7	Temperature Cycling	Total 1000 cycles of the following temperature cycle 	JESD22
8	Thermal Shock	Total 300 cycles of the following temperature cycle 	MIL-STD-202
9	Moisture Resistance	Storage Temperature: 25℃± 2℃ to 65 ℃± 2℃ , Relative Hmuidity: 80%RH to 100%RH , 24 Hrs / cycle , 10 cycles.	MIL-STD-202
10	Operational life	1000 hrs @ 85± 2°C. Rated VDD applied with 1 MΩ.	MIL-STD-202
11	Solderability	Temperature 235 ºC +/- 5ºC Immersing depth 0.5 mm minimum Immersion time 5 +/- 0.5 seconds Flux Rosin resin methyl alcohol solvent (1 : 4)	J-STD-002
12	Resistance To Soldering Heat	Test temperature 260 +/- 5 ºC Test time 10 +/- 1 sec. Emersion Rate 25 ± 6 mm/s Immersed of specimen 1.5mm	MIL-STD-202
13	Biased Humidity	1000Hrs 85℃/85%RH.	MIL-STD-202