

SPECIFICATION FOR APPROVAL

CUSTOMER : _____

PRODUCT TYPE : SMD SEAM SEALING X'TAL 3.2*2.5

NOMINAL FREQ. : 25.000000MHz

STARWAVE P/N : SWXCHACF0-25.000000D

REVISION : A1

CUSTOMER P/N : _____

PM / SALES : _____

DATE : _____

CUSTOMER SIGNATURE & Date

- (1) STAR requires one copy returned with signature and title of authorized individual that signifies acceptance of the attached specifications.
- (2) Orders received and accepted by STAR 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.

RoHS Compliant



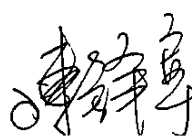
PRODUCT SPECIFICATION SHEET

PRODUCT TYPE : SMD SEAM SEALING X'TAL 3.2*2.5

NOMINAL FREQ. : 25.000000MHz

STARWAVE P/N : SWXCHACF0-25.000000D

REVISION : A1

PE/RD	QA	MFG
		
27-Aug-20	27-Aug-20	27-Aug-20

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

Standard atmospheric conditions

Unless otherwise specified, the standard range of atmospheric conditions for making measurement and tests are as follow:

Ambient temperature : 25±5℃
 Relative humidity : 40%~70%

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

Ambient temperature : 25±3℃
 Relative humidity : 40%~70%

Measure equipment

Electrical characteristics measured by HP E5100A or equivalent.

Crystal cutting type

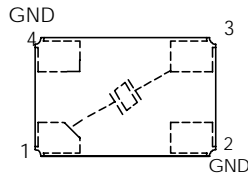
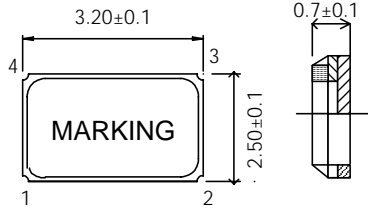
The crystal is using AT CUT (thickness shear mode).

Unit Weight:

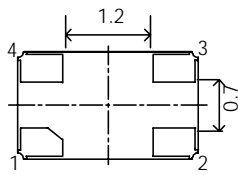
0.018±0.001 g/pcs

	Parameters	SYM.	Electrical Spec.				Notes
			MIN	TYPE	MAX	UNITS	
1	Nominal Frequency	FL	25.000000			MHz	-
2	Oscillation Mode	-	Fundamental			-	-
3	Load Capacitance	CL	20			pF	-
4	Frequency Tolerance	-	±10			ppm	shift to -5ppm at 25 °C ± 3 °C
5	Frequency Tolerance	-	±30			ppm	Over Operating Temp. Range (Reference 25°C)
6	Operating Temperature	-	-40	~	85	°C	-
7	Aging	-	±3			ppm	1st Year
8	Drive Level	DL	-	100	-	uW	-
9	Effective Resistance Rr	Rr	-	-	65	Ω	-
10	Shunt Capacitance C0	C0	-	1.3	-	pF	-
11	Motional Capacitance C1	C1	-	3.0	-	fF	-
12	Insulation Resistance	-	500	-	-	MΩ	at DC 100V
13	Storage Temperature Range	-	-40	~	125	°C	-
14	Pulling Sensitivity	-	15	~	19	ppm/pF	-

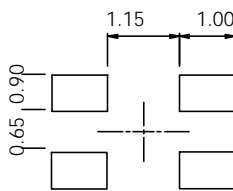
■ DIMENSIONS



Internal View Connection



Top View



Suggest Layout

Units:mm

■ MARKING



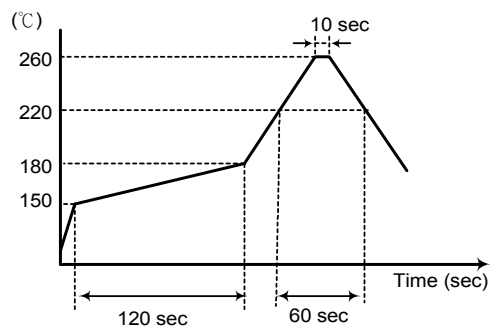
Frequency(MHz)
ex:12.000=12.000000

This date code will be cycled every four years

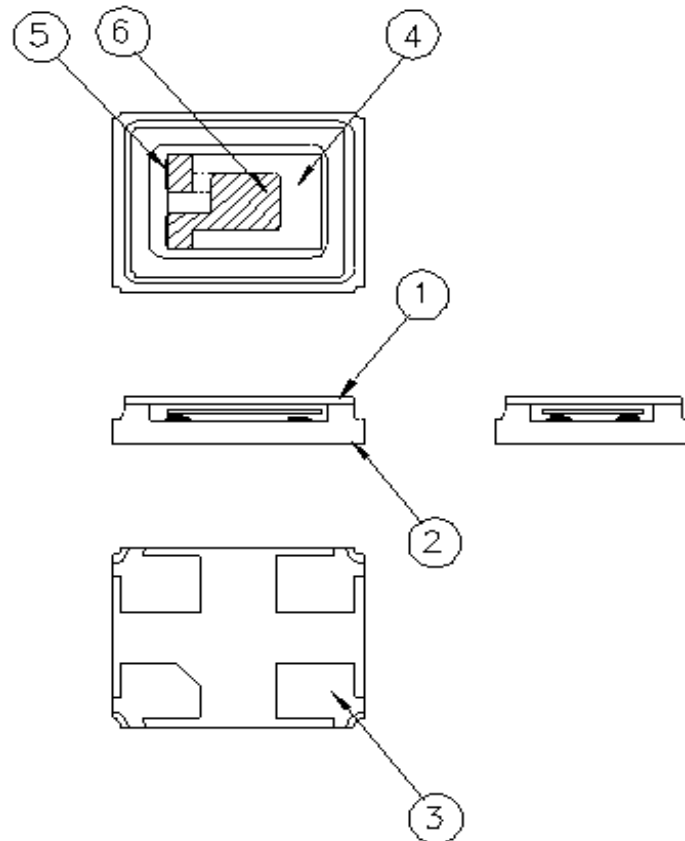
■ SUGGESTED REFLOW PROFILE

Total time : 200 sec. Max.

Solder melting point :220 °C

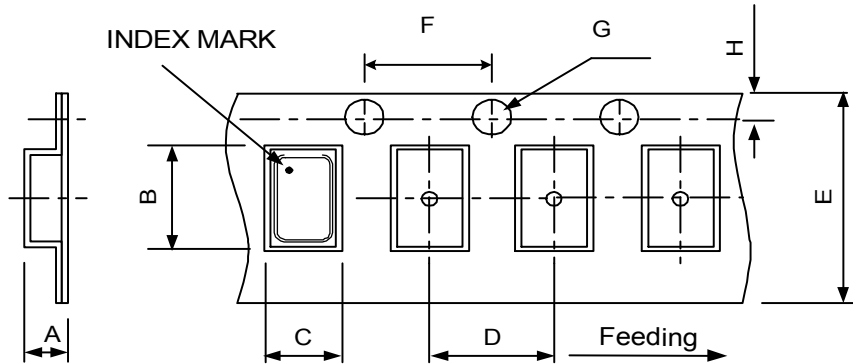


■ STRUCTURE ILLUSTRATION



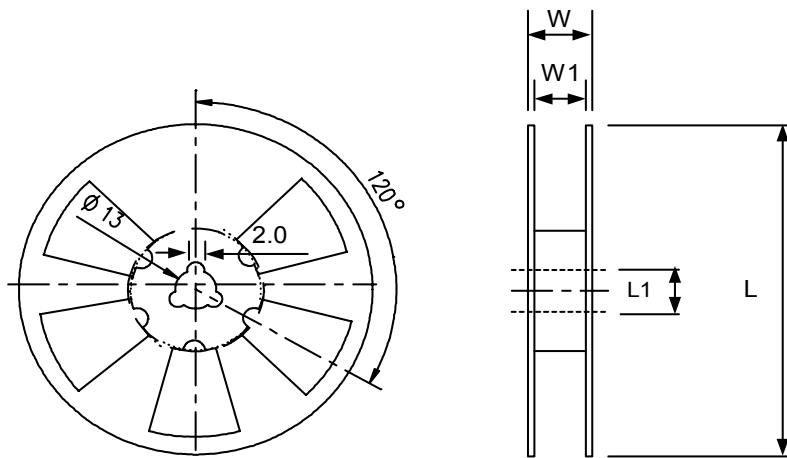
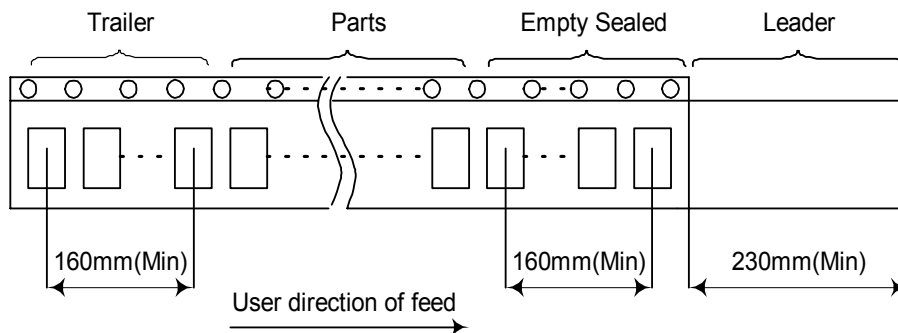
NO	COMPONENTS	MATERIALS	QTY	FINISH/SPECIFICATIONS
1	Lid	Kovar (Fe/Co/Ni)	1	-
2	Base(Package)	Ceramic (Al ₂ O ₃) + Kovar (Fe/Co/Ni)+ Ag/Cu	1	Color black
3	PAD	Au	4	Tungsten metalize + Ni plating + Au plating
4	Crystal blank	SiO ₂	1	-
5	Conductive adhesive	Ag	4	Silicon resin
6	Electrode	Au + Cr	2	-

■ PACKING : (EIA-481-2)



DIMENSIONS	A	B	C	D	E	F	G	H	(UNIT : mm)
	1.40	3.40	2.70	4.00	8.00	4.00	1.50	1.75	

REMARK :



DIMENSIONS	L	L1	W	W1	pcs / Reel (UNIT : mm)
	178	13	11.5	8	Standard Reel Quantity is 3,000 pcs per reel

