

**ASAIR**

**Crystal SMD**  
**SMD 3.2X2.5**

**Part Frequency:** 25.000MHz

**Part Code:** MRASXT32S4-025.00000-9FC4C0

## 1. Product Features

- Small size, ultra-thin, SMD leadless
- Wide operating temperature range, high stability and reliability

## 2. Product Parameters

Parameter	Min.	Typical	Max.	Unit	Condition
Output Frequency	25.000			MHz	/
Operating Temp.	-40	/	+85	°C	Constant Temp. High & Low Temp. Equipment
Storage Temp.	-55	/	+125	°C	/
Load	20			pF	Capacitive Load

Remark: The test instrument can use the same test equipment as 250B.

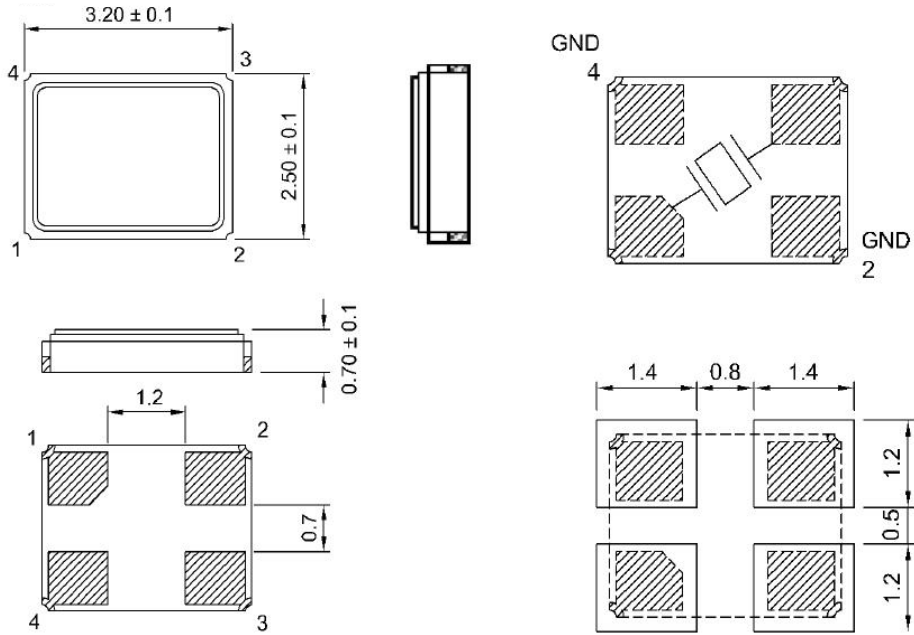
When measuring the frequency tolerance characteristic value, the test should be carried out at a stable ambient temperature of  $25\pm 2^{\circ}\text{C}$ .

## 3. Frequency & Electrical Properties

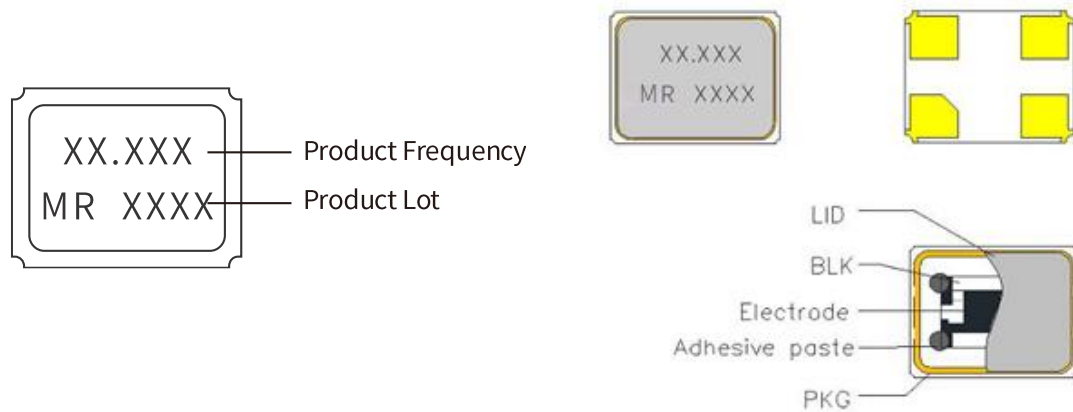
S/N	Parameter	Symbol	Min.	Typical	Max.	Unit	Condition
1	Output Frequency	FL	25.000			MHz	/
2	Overtone Order	OT	Fundamental			/	/
3	Load Capacitance	CL	20			pF	/
4	Frequency Tol.	$\Delta F/F$	$\pm 10$			ppm	$25\pm 2^{\circ}\text{C}$
5	Frequency Temp. Stability	$\Delta F/F$	$\pm 25$			ppm	Operating Temp. Range (ref. $25^{\circ}\text{C}$ )
6	Operating Temp. Range	T <sub>OPR</sub>	-40	/	+85	°C	/
7	Storage Temp. Range	T <sub>STR</sub>	-55	/	+125	°C	/
8	Shunt Capacitance	C <sub>0</sub>	/	/	3	pF	/
9	Equivalent Series Resistance	R <sub>r</sub>	/	/	40	Ω	/

10	Drive Level	DL	/	/	100	uW	/
11	Insulation Resistance	IR	500	/	/	MΩ	DC 100V
12	Aging	Fag	±3			ppm	1 <sup>st</sup> year

### 4. Outer Size (Unit:mm)



### 5. Structure & Material



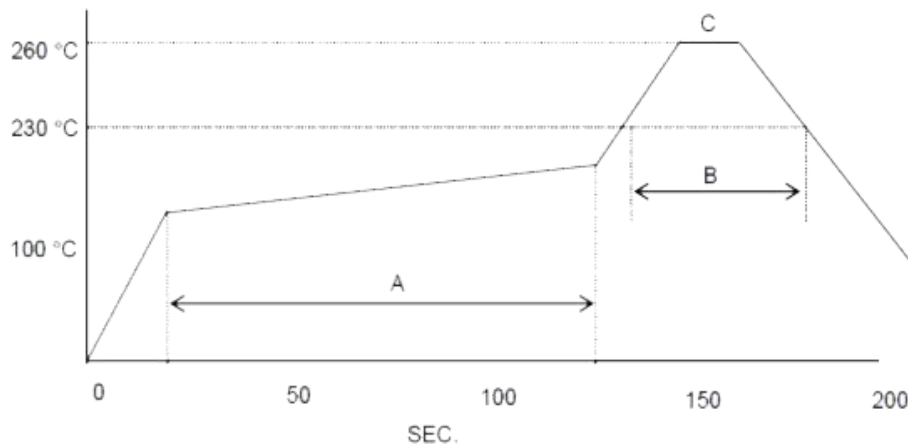
S/N	Component	Material	Remark
1	LID	KOVAR (Fe+Co+Ni alloy)	Flat cover
2	BLK	SiO <sub>2</sub> (Quartz)	Quartz crystal wafer
3	Electrode	Ag plating	Electrode

4	Adhesive	Ag/Silicon	Silver colloid
5	PKG	AL <sub>2</sub> O <sub>3</sub> + Au plating	Base plate

### 6. Reliability Test Conditions

S/N	Items	Conditions	Reference Criteria
1	Drop	Free drop from a height of 100cm onto a plank of 3cm, 3 times	IEC68-2-32.Ed
2	Vibration	Frequency: 10~55Hz; Amplitude: ±1.5mm; Frequency: 55~500Hz; Acceleration Amplitude: 200m/s <sup>2</sup> Cycle Time: 10-500-10Hz:11 min; Vibration Direction: X,Y,Z	GJB360.201 GJB360.204
3	Temp. Variation	-40°C±2°C(30min)↔85°C±2°C(30min); Repeat 10times	IEC68-2-14.N
4	Hot & Humidity	Temp.: 40°C±2°C; Humidity: 90~95%; Time: 96 Hours	GJB360.103
5	Low Temp.	Temp.: -40°C±2°C; Time: 96 Hours	IEC68-2-1.A
6	High Temp.	Temp.: 100°C±2°C; Time: 96 Hours	IEC68-2-2.B
7	Reflow	A: 120±20s; B: 50±10s; C: 10±2s	IEC68-2-58.Td
8	Aging	Temp.: 125°C; Time: 48 Hours	JY. Method
9	Air Impermeability	He (0.4~0.6MPa): 2 Hours	IEC 68-2-17.Q
10	Solderability	Temp.: 235°C±5°C	IEC68-2-58.Td

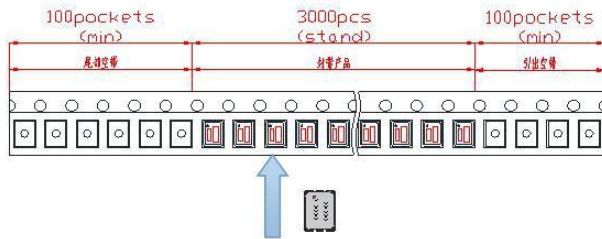
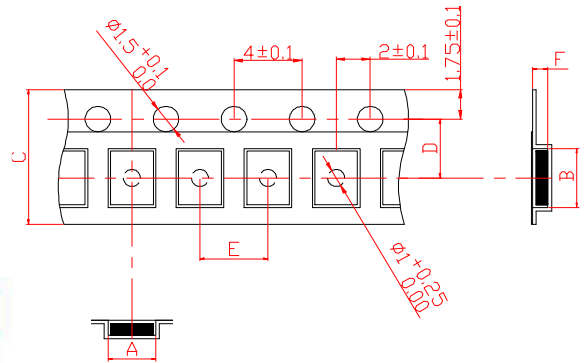
### 7. Reflow Test



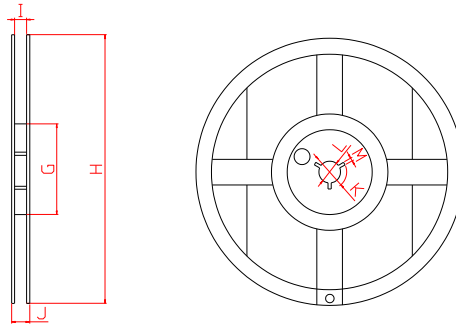
A: 120±20s; B: 50±10s; C: 10±2s

### 8. Taping

A	B	C	D	E	F
2.8±0.1	3.5±0.1	8.0±0.2	3.5±0.05	4.0±0.1	0.95±0.1

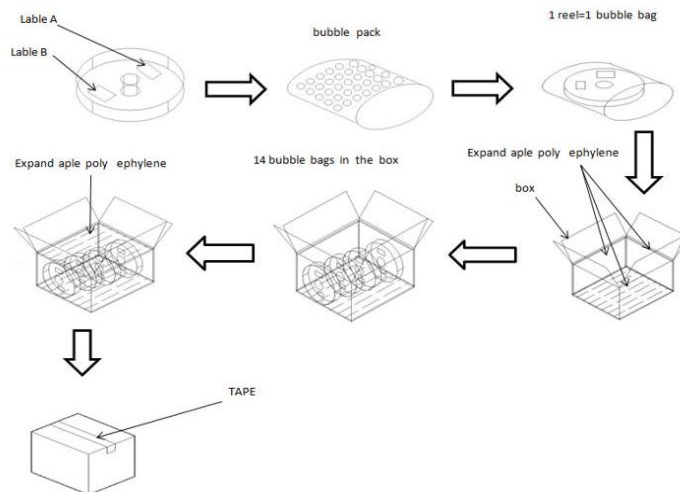


### 9. Reel



G	H	I	J	K	L	M
$\phi 60 \pm 1.0$	$\phi 178 \pm 1.0$	8.5±0.5	10.5±0.5	22.5±0.5	13.5±0.5	3.0±0.5

### 10. Product Packaging



Note:

1. No collision during packaging and transportation;
2. After packaging, it should not be placed in the environment with water;
3. Keep in a clean and non-corrosive gas environment;
4. Please use the product within 6 months;
5. Storage environment: Temp.  $-10^{\circ}\text{C}\sim+40^{\circ}\text{C}$ , humidity less than 75%.