



Victorlands Technical Specification

Product name	Quartz crystal unit
Model	5032/13.560MHz
Product code	K5A13560S0Q4B2
Product parameters	20PF/±20PPM
Product reliability	P. 2-4
Packing form	P. 5



1. General item

Nominal frequency: **13.560MHz**

Vibration mode: AT Fund

Operation temperature range: **-40°C~+85°C**

Storage temperature rang: **-40°C~+85°C**

Test machine: **S&A 250B**

Drive level: **100 μ W**

Load capacitance: **20pF**

2. Electrical characteristics

Condition: **25 $\pm$ 3°C** Relatively humidity $\leq$ **60%**

2.1 Frequency tolerance: **$\pm$ 20ppm**

2.2 Equivalent resistance: $\leq$ **80 Ω**

2.3 Temperature characteristics: **$\pm$ 20ppm**

2.4 Shunt capacitance: $\leq$ **7pF**

2.5 Insulation resistance: $\geq$ **500M Ω / 100 $\pm$ 15V_{DC}**

2.6 Aging characteristics: **$\pm$ 5ppm/year**

3. Reliability specification

3.1 Drop characteristics

Condition: height 50cm, 3 times, test after 1 hour

Equipment: S&A250B, thickness 3cm hard wood

Standard: frequency change: $\leq \pm$ 5ppm, Rr as specification

3.2 Shake characteristics

Condition: shake frequency 10~55Hz, cyc1~2 minutes, swing

1.5mm, direction x/y/z, all 30 minutes. Test after 1 hour



Equipment: S&A250B, test machine

Standard: frequency change: $\leq \pm 5\text{ppm}$, Rr as specification

3.3 Airproof characteristics

Condition: put crystal into the pressure cabin with alcohol, keep pressure 0.4-0.5mpa 10 minutes, then take out and blow for 5 minutes

Equipment: IR machine

Standard: $IR \geq 500 \text{ m}\Omega$

3.4 Weld characteristics

Condition: $235 \pm 5^\circ\text{C}$ 、3 seconds

Equipment: test machine

Standard: 90% adhibit tin ok

3.5 Humidity characteristics

Condition: $40^\circ\text{C} \pm 2^\circ\text{C}$, humidity 90-95%, 250 hours.

Equipment: S&A250B, test cabin

Standard: frequency change: $\leq \pm 5\text{ppm}$, Rr as specification

3.6 Low temperature characteristics

Condition: $-30^\circ\text{C} \pm 2^\circ\text{C}$, after 250 hours, put in room temperature 1 hour

Equipment: S&A250B, test machine

Standard: frequency change: $\leq \pm 5\text{ppm}$, Rr as specification

3.7 High temperature characteristics

Condition: $85^\circ\text{C} \pm 2^\circ\text{C}$, after 250 hours, put in room temperature 1 hour

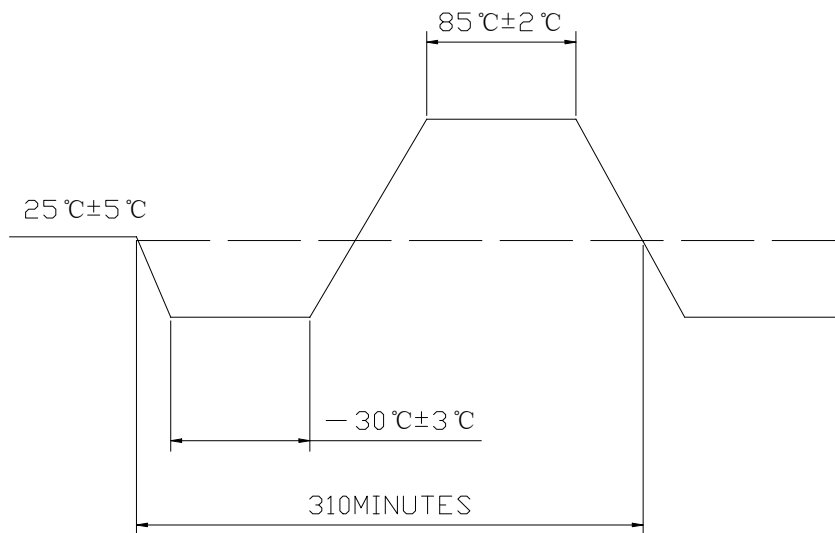
Equipment: S&A250B, test machine



Standard: frequency change: $\leq \pm 5\text{ppm}$, Rr as specification

3.8 Temperature cycling

Condition:



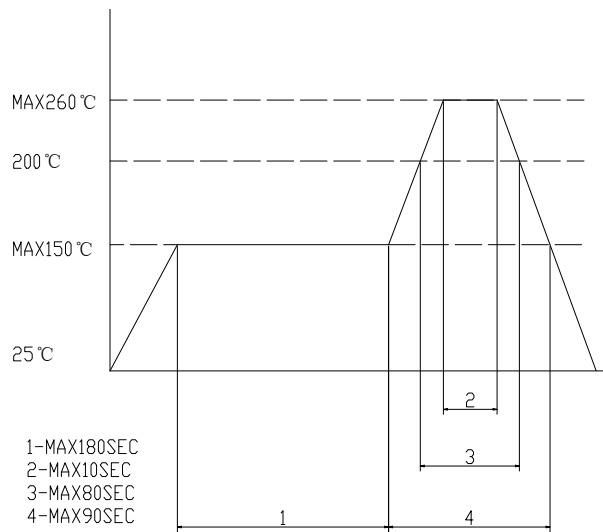
AFTER TEMPERATURE CYCLING

Equipment: S&A250B, test machine.

Standard: frequency change: $\leq \pm 5\text{ppm}$, Rr as specification

3.9 Refluence examination

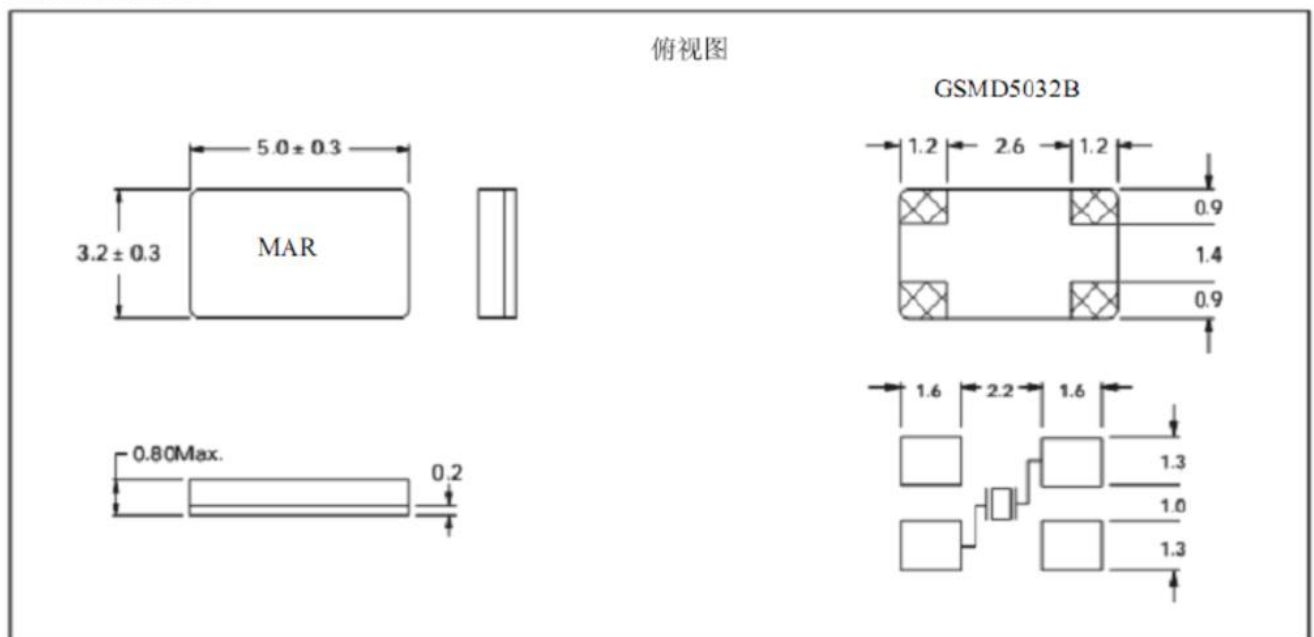
Condition:



Equipment: S&A250B, test machine

Standard: frequency change: $\leq \pm 10\text{ppm}$, Rr as specification

Extenal dimensions



Dimension: mm