



# 深圳市凯越翔电子有限公司

## 贴片晶振规格书

产品名称:	贴片晶振
产品型号:	5032/13.560 MHZ (4P)
产品参数:	20 PF/±20 ppm
原厂型号:	K5A135602020
凯越翔技术部:	董宗全

### 客 户 确 认 栏

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年 月 日	年 月 日

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## 1. General item

Nominal frequency: **13.560 MHz**

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  $\mu$ W**

Load capacitance: **20 pF**

## 2. Electrical characteristics

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

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

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

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

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

2.5 Insulation resistance:  $\geq$  **500M  $\Omega$  / 100  $\pm$  15V<sub>DC</sub>**

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:  $\leq$   **$\pm$  5ppm**, 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:



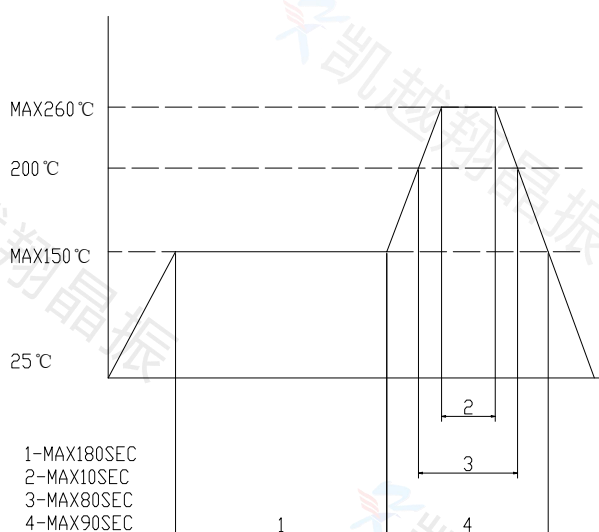
AFTER TEMPERATURE CYCLING

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

External dimensions

