



江苏浩都频率科技有限公司
JIANGSU HD-CRYSTAL TECHNOLOGY CO., LTD

Specifications For Product

TYPE : Quartz Crystal Oscillator
SPEC : QMEMS3225/3.579545M/3.3V/±30PPM
P/N : 8R003579301
VER : A/1

| | | | |
|----------------------|-------|----------|---|
| R&D APPR. SIGNATURED | | | DEPT.  |
| ISSUE | CHECK | APPROVAL | |
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Product Description

8R003579301

1. Scope:

- 1.1 This specification applies to the RoHS crystal oscillator with a frequency of 3.579545 MHz which will be used in electronic equipment.



2. Construction:

- 2.1 Oscillators series: QMEMS3225 8R series
2.2 Package: SMD3.2×2.5

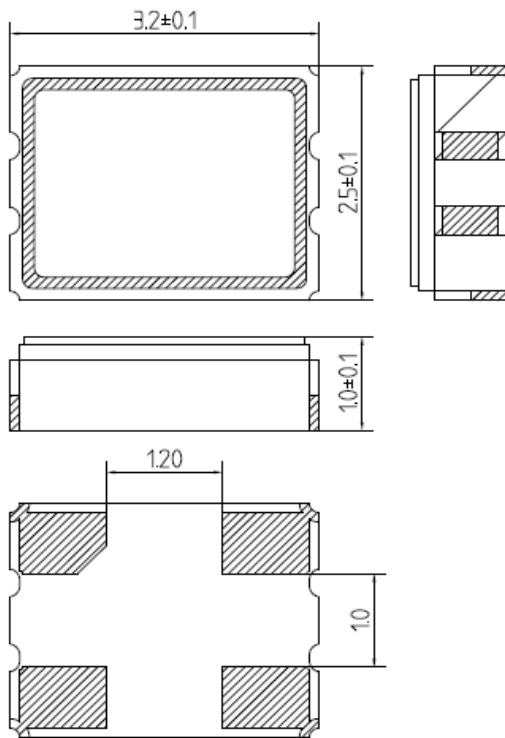
3. Electrical Characteristics

- | | | |
|------|---|---|
| 3.1 | Nominal Frequency: | 3.579545MHz |
| 3.2 | Frequency Stability: | ±30ppm |
| | (incl. 25°C tolerance, tolerance over operating temperature range, input voltage change, load change, 1 year aging) | |
| 3.3 | Aging: | ±3ppm/year |
| 3.4 | Operating Temperature Range: | -40 to + 85°C |
| 3.5 | Storage Temperature Range: | -55 to + 125°C |
| 3.6 | Input Voltage (V_{DD}): | +3.3Vdc±10% |
| 3.7 | Input Current (I_{DD}): | 36mA max |
| 3.8 | Output Waveform: | CMOS |
| 3.9 | Output Symmetry: | 50±5% |
| 3.10 | Rise/Fall Time: | 5ns max |
| 3.11 | Output Voltage V_{OL} : | 10%VDD |
| | V_{OH} : | 90%VDD |
| 3.12 | Output Load: | 15pF |
| 3.13 | Output State Control: | Enable/disable |
| 3.14 | Start-up Time: | 8ms max |
| 3.15 | Phase Jitter (rms): | 1ps rms max 12kHz to 20MHz max |
| 3.16 | Oscillation mode: | Fundamental |
| 3.17 | Others: | Not recommended for safety applications |

Reliability Specification

| NO. | ITEM | SPECIFICATION | TEST METHOD |
|------|---|---|--|
| 4.1 | Temperature Cycle (GB/T 2423.22-2002, Method Nb) | Frequency change after test $\leq\pm$ 5ppm. | 10 cycles from -55°C to 125°C. Measurement taken after DUT being left at room temperature for 24 \pm 2 hours. |
| 4.2 | Low Temperature Storage (GB/T 2423.1-2001, Method Aa) | Frequency change after test $\leq\pm$ 5ppm. | Spending 72 hrs at -55°C \pm 3°C constant temperature. Measurement taken after DUT being left at room temperature for 24 \pm 2 hours. |
| 4.3 | High Temperature Storage (GB/T 2423.2-2001, Method Ba) | Frequency change after test $\leq\pm$ 5ppm. | Spending 72 hrs at 125°C \pm 3°C constant temperature. Measurement taken after DUT being left at room temperature for 24 \pm 2 hours. |
| 4.4 | Humidity (GB/T 2423.3-2006, Method Cab) | Frequency change after test $\leq\pm$ 5ppm. | Spending 96 hrs at 40 °C \pm 3 °C, with 90 \pm 3% R.H. Measurement taken after DUT being left at room temperature for 24 \pm 2 hours. |
| 4.5 | Vibration (GB/T 2423.10-1995, Method Fc) | Frequency change after test $\leq\pm$ 5ppm. | Apply 0.75mm vibration at sweep frequency 10~500 Hz, for 2h. 10 cycles in each direction of 3 axis. Measurement taken after 1 hour. |
| 4.6 | Shock (GB/T 2423.5-1995, Method Ea) | Frequency change after test $\leq\pm$ 5ppm. No visible damages. | Peak 1000m/s ² , normal width 6ms half sine wave form, 3.7m/s, 3 perpendicular axis of samples, 3 cycles / direction, total 18 cycles. Measurement taken after 1 hour. |
| 4.7 | Drop (GB/T 2423.8-1995, Method Ed) | Frequency change after test $\leq\pm$ 5ppm. No visible damages. | Free drop to the wooden plate from 1.0 m heights for 3 times. |
| 4.8 | Solderability (GB/T 2423.28-2005, Method Tc) | Terminals shall be covered more than 95% with solder. | In 245 \pm 5°C solder bath for 2 \pm 0.5 seconds. There is no need to do functioned test. 8-12X magnifier. |
| 4.9 | Terminal Strength (JIS-C-6429 Method 1 & 2) | No visible damage | Mount on a glass-epoxy board (100x50x1.6mm), then bend to 2mm displacement (velocity 1mm/sec) and keep for 5 seconds. or pulling force 0.5 kg for at least 60 seconds. |
| 4.10 | Resistance to Soldering Heat (GB/T 2423.28-2005, Test Tb Method 1B) | Frequency change after test $\leq\pm$ 5ppm. | Passed through the re-flow oven under the following condition. Preheat to 150°C \pm 5°C for 60 to 120sec, and peak 265°C \pm 5°C for 10s \pm 3sec. Measurement taken after DUT being left at room temperature for at 24 \pm 2 hours. |
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| 4.11 | OTHERS | | |

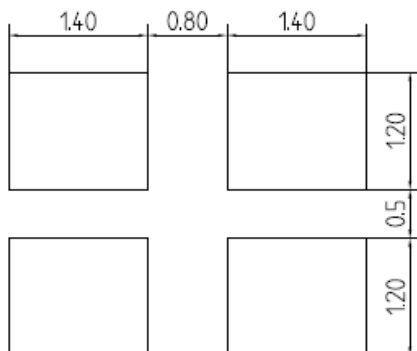
Package Outline Dimensions



| PAO FUNCTION | |
|--------------|----------------|
| 1# | ENABLE CONTROL |
| 2# | GND |
| 3# | OUT |
| 4# | VDD |

Units:mm

Suggested Pad Layout



Units:mm

Packing Specification

