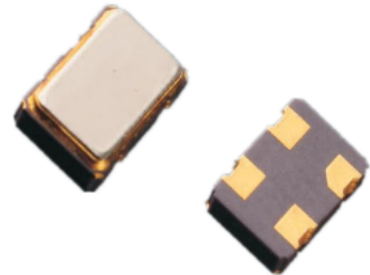


**SMD5032-4 Crystal Oscillator**

**820371253W1**

1. Scope:

- 1.1 This specification applies to the RoHS crystal oscillator with a frequency of 37.125MHz which will be used in electronic equipment.



2. Construction:

- 2.1 Oscillators series: SMD 5.0 \* 3.2 XO
- 2.2 Package: SMD5.0 \* 3.2

3. Electrical Characteristics

- 3.1 Nominal Frequency: 37.125MHz
- 3.2 Frequency Stability: ±50ppm  
(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<sub>DD</sub>): +3.3Vdc±10%
- 3.7 Input Current (I<sub>DD</sub>): 20mA max
- 3.8 Output Waveform: CMOS
- 3.9 Output Symmetry: 50±10%
- 3.10 Rise/Fall Time: 8ns max
- 3.11 Output Voltage V<sub>OL</sub>: 10%VDD  
V<sub>OH</sub>: 90%VDD
- 3.12 Output Load: 15pF
- 3.13 Output State Control: Enable/disable
- 3.14 Start-up Time: 5ms max
- 3.15 Standby current: 10µA max
- 3.16 Phase Jitter (rms): 1ps rms max 12kHz to 20MHz max
- 3.17 Oscillation mode: Fundamental
- 3.18 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 <sup>2</sup> , 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.
4.11	OTHERS		



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## Packing Specificatio

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