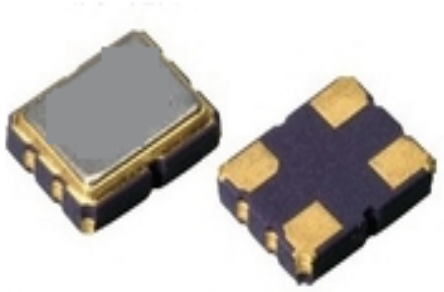
HIGH DIODE

JIANGSU HD-CRYSTAL TECHNOLOGY CO., LTD

SMD3225-4 Crystal Oscillator

830240003W1



1. Scope:

1.1 This specification applies to the RoHS crystal oscillator with a frequency of 24.000MHz which will be used in electronic equipment.

2. Construction:

2.1 Oscillators series: SMD 3.2×2.5 XO

2.2 Package: SMD3.2×2.5

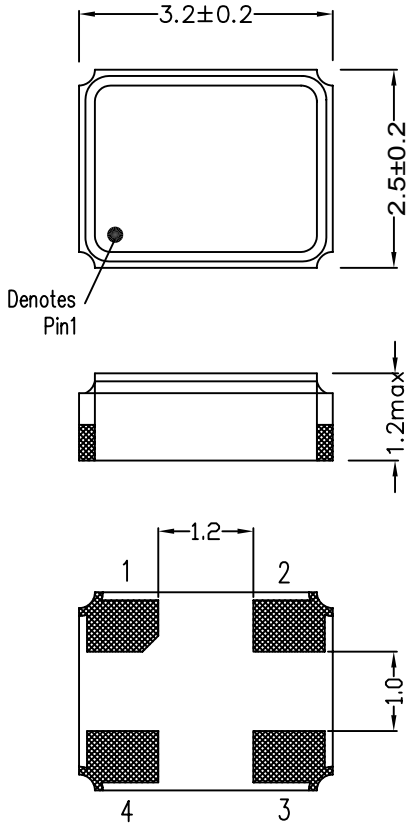
3. Electrical Characteristics

3.1	Nominal Frequency:	24.000MHz
3.2	Frequency Stability: (incl. 25°C tolerance, tolerance over operating temperature range, input voltage change, load change, 1 year aging)	±50ppm
3.3	Aging:	±3ppm/year
3.4	Operating Temperature Range:	-20 to + 70°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}):	10mA max
3.8	Output Waveform:	CMOS
3.9	Output Symmetry:	50±10%
3.10	Rise/Fall Time:	8ns 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:	10ms max
3.15	Standby current:	10μA max
3.16	Phase Jitter (rms):	1ps rms max 12kHz to 20MHz max
3.17	Oscillation mode:	Fundmental
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≤± 5ppm.	10 cycles from -55°C to 125°C. Measurement taken after DUT being left at room temperature for 24±2 hours.
4.2	Low Temperature Storage (GB/T 2423.1-2001, Method Aa)	Frequency change after test≤± 5ppm.	Spending 72 hrs at -55°C±3°C constant temperature. Measurement taken after DUT being left at room temperature for 24±2 hours.
4.3	High Temperature Storage (GB/T 2423.2-2001, Method Ba)	Frequency change after test≤± 5ppm.	Spending 72 hrs at 125°C±3°C constant temperature. Measurement taken after DUT being left at room temperature for 24±2 hours.
4.4	Humidity (GB/T 2423.3-2006, Method Cab)	Frequency change after test≤± 5ppm.	Spending 96 hrs at 40 °C ± 3 °C, with 90± 3% R.H. Measurement taken after DUT being left at room temperature for 24±2 hours.
4.5	Vibration (GB/T 2423.10-1995, Method Fc)	Frequency change after test≤± 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≤± 5ppm. No visible damages.	Peak 1000m/s2, 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≤± 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 then 95% with solder.	In 245 ± 5℃ solder bath for 2 ± 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≤± 5ppm.	Passed through the re-flow oven under the following condition. Preheat to 150°C±5°C for 60 to 120sec,and peak 265°C±5°C for 10s±3sec.Measurement taken after DUT being left at room temperature for at 24±2 hours.
4.11	OTHERS		

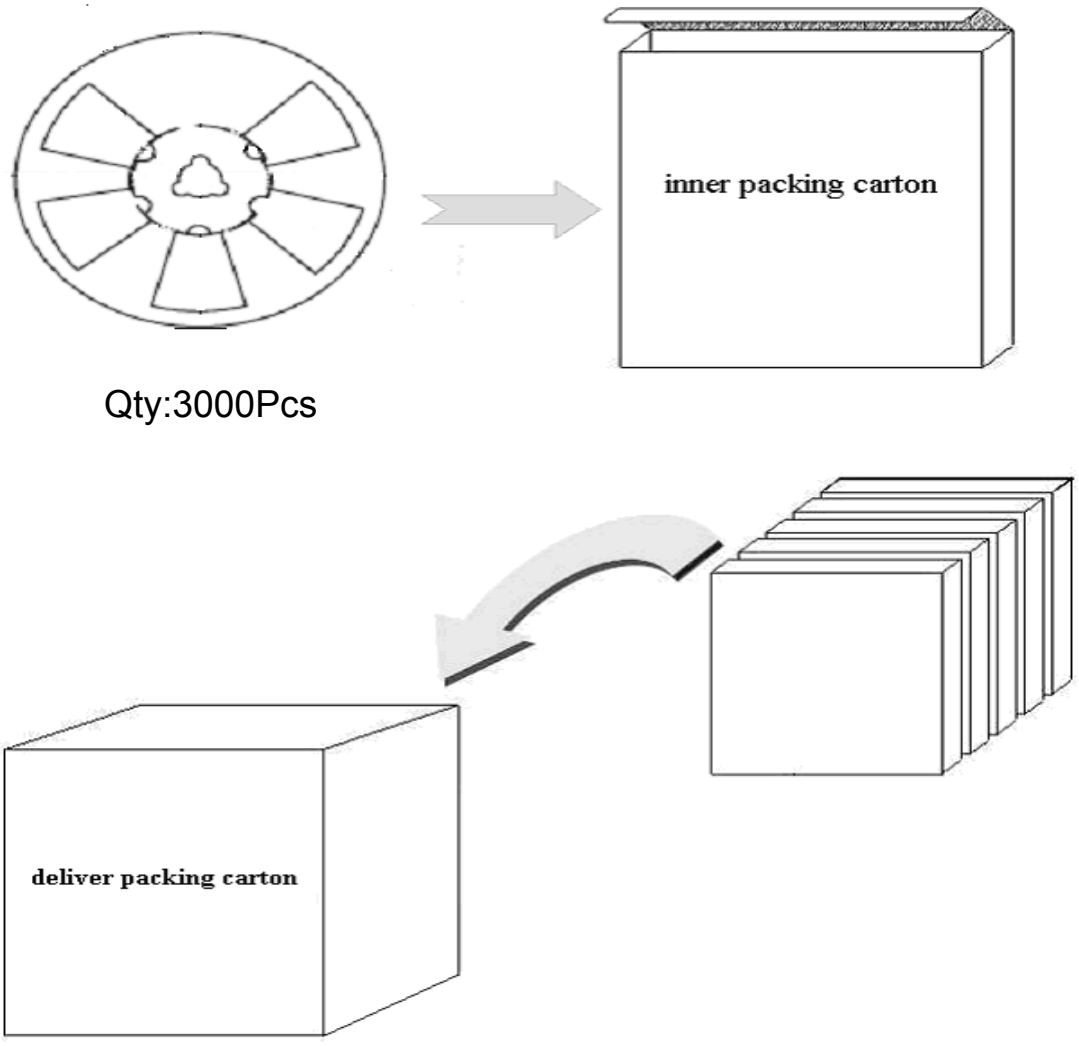
Package Outline Dimensions



PIN CONNECTION

P/N	Features
1	Enable/Disable*
2	GND
3	Output
4	VDD

Packing Specificatio



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