

产 品 规 格 书

SPECIFICATIONS FOR PRODUCT

产品类型 TYPE : Crystal Oscillator

产品规格 SPEC : 10MHz/5032/3.3V

产品型号 P/N : CJO04-100003320B30

日期 DATE : 2019/07/05

核准及签名			部门
R&D APPR. SIGNATURED			DEPT.
拟制	审核	批准	频率器件事业部
ISSUE	CHECK	APPROVAL	
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**SMD5.0 * 3.2 Crystal Oscillator****CJO04-100003320B30**

1. Scope:
 - 1.1 This specification applies to the RoHS crystal oscillator with a frequency of 10MHz which will be used in electronic equipment.
2. Construction:
 - 2.1 Oscillators series: SMD 5.0×3.2 XO
 - 2.2 Package: SMD 5.0×3.2
3. Electrical Characteristics
 - 3.1 Nominal Frequency: 10MHz
 - 3.2 Frequency Stability: ±20 ppm
(incl. 25°C tolerance)
 - 3.3 Aging: ±3ppm/year
 - 3.4 Operating Temperature Range: -40°C to +85°C
 - 3.5 Storage Temperature Range: -55°C 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: 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

4. Reliability Specifications

This is the quality control and quality assurance and reliability tests performance data for the RoHS 10MHz SMD 5.0×3.2 XO

related to the specification and approval sheet provided by JSCJ .

Standard test condition (TEMP.: 20±15°C. Relative humidity: 65±20%)

For any discrepancy in GO/NG, test will be done at TEMP.25±2°C. R.H. 65±5%.

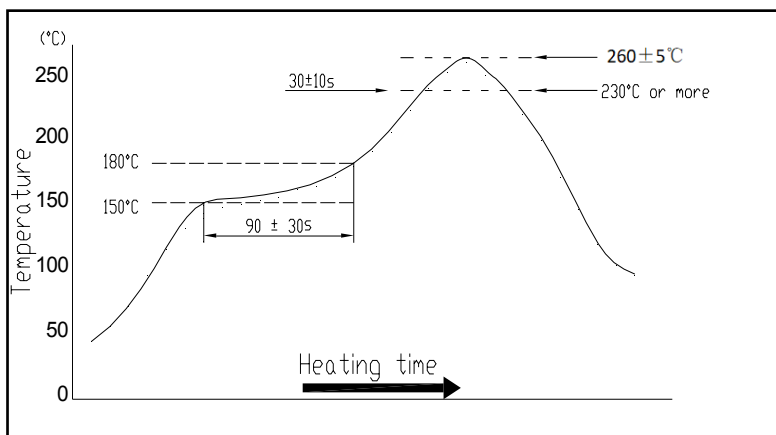
NO.	ITEM	SPECIFICATION	TEST METHOD
4.1	Temperature Cycle (GB/T 2423.22-2002, Method Nb)	Frequency change after test≤±5ppm.	10 cycles from -55°C to 125°C. Measurement taken after DUT being left at room temperature for 24±2 hours.
4.2	Low Temperature Storage (GB/T 2423.1-2001, Method Aa)	Frequency change 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/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≤±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 255 ± 5°C 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		

5. Recommended Reflow soldering condition (SMD)

■ Solder profile

Peak: $260 \pm 5^\circ\text{C}$ Soldering zone: 230°C or more, $30 \pm 10\text{s}$.

Pre-heating zone 1: $150 \sim 180^\circ\text{C}$, $90 \pm 30\text{s}$



Temperature profile for reflow soldering

6. Soldering iron method

Bit temperature: $350 \pm 10^\circ\text{C}$ Application time of soldering iron: $3+1\text{ s}$

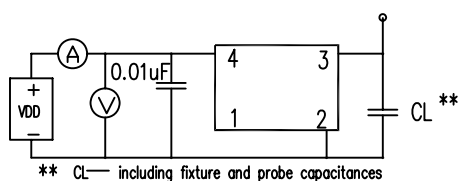
For other procedures, refer to IEC 60068-2-20.

PIN CONNECTION

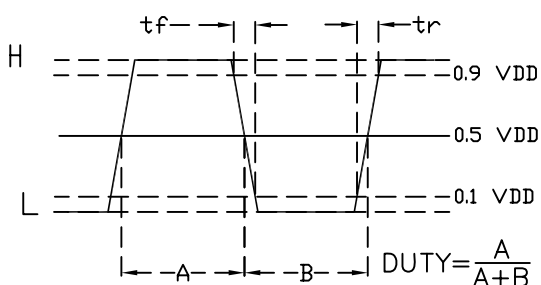
P/N	CJO04
1	Enable/Disable *
2	GND
3	Output
4	VDD

* Enable/Disable functional description
 When pin1 goes high ($>=0.7\text{VDD}$) or open, the Oscillator in normal operation and has output in frequency. When pin1 goes low ($<=0.3\text{VDD}$), the oscillator stops and the oscillator output (Pin3) becomes high impedance.

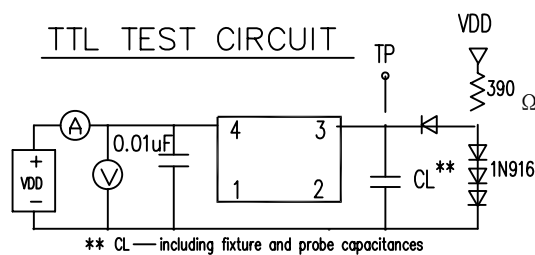
CMOS TEST CIRCUIT



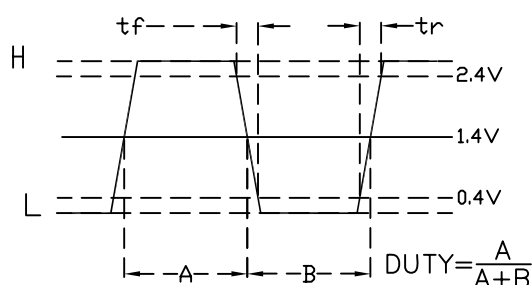
TYPICAL CMOS WAVE FORM



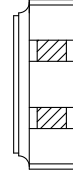
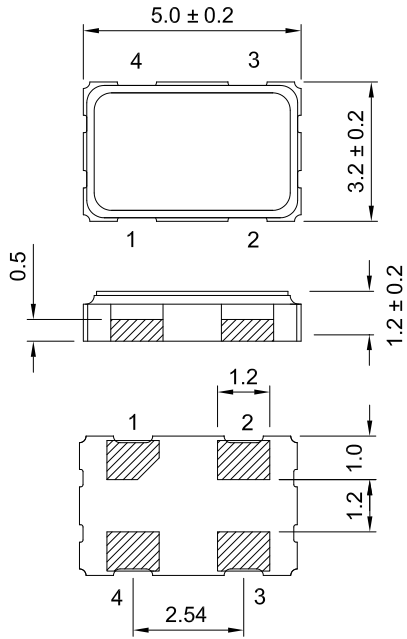
TTL TEST CIRCUIT



TYPICAL TTL WAVE FORM

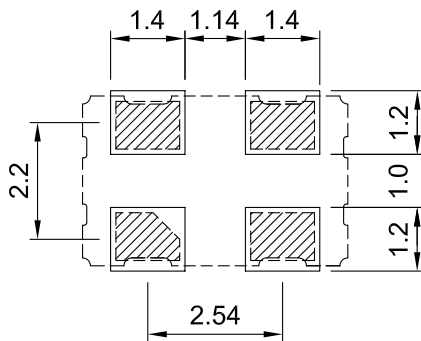


Package Outline Dimensions



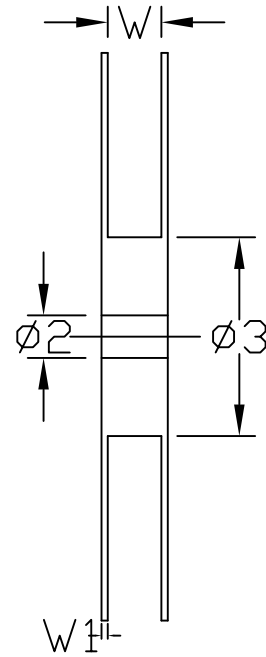
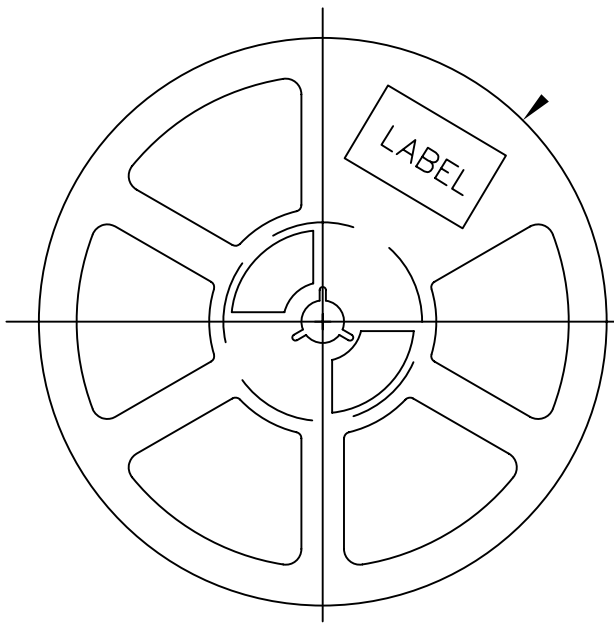
PAD FUNCTION:
1:ENABLE CONTROL
2:GND
3:OUT
4:VDD

Suggested Pad Layout



NOTICE

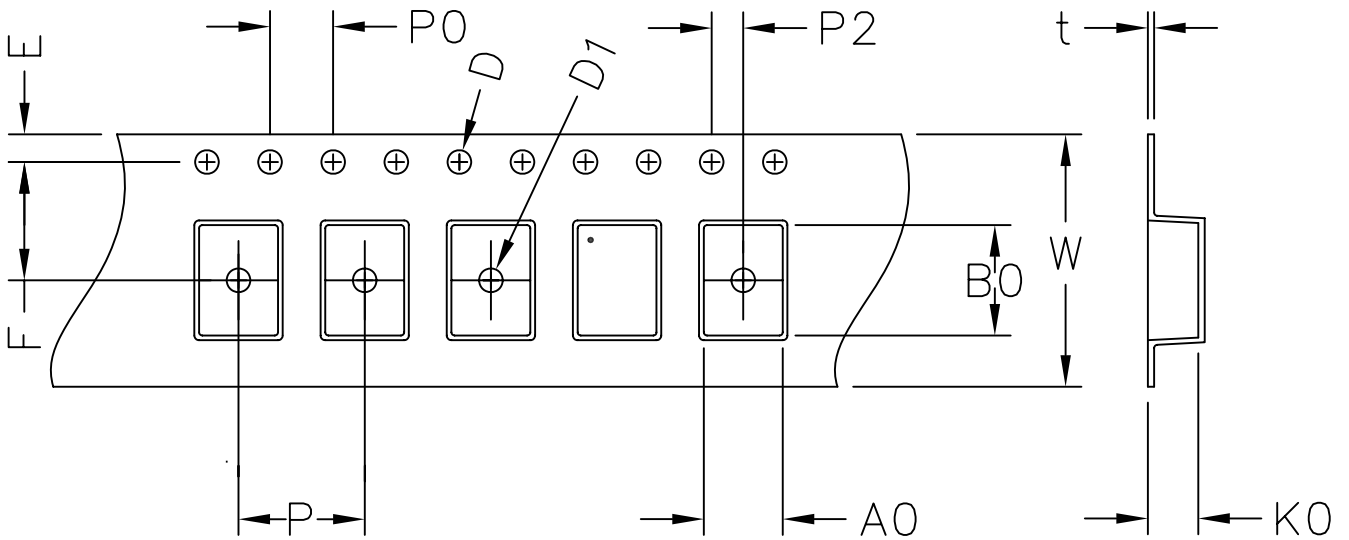
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REEL DIMENSIONS

ITEM	$\phi 1 \pm 0.5$	$\phi 2 \pm 0.25$	$\phi 3 \pm 0.3$	$W \pm 0.2$	$W1 \pm 0.25$
16mm	178	13.2	62.5	16.4	2

LABEL: JSCJ P/N: xxx...xxx
 Freq: ff.fff
 Qty: 1000Pcs



EMBOSSED TYPE DIMENSIONS

ITEM	$W + 0.3 / 0.1$	$A0 \pm 0.1$	$B0 \pm 0.1$	$K0 \pm 0.1$	$P \pm 0.1$	$F \pm 0.1$	$t \pm 0.05$	Qty
149	16.0	3.2	5.0	2.0	8.0	7.5	0.3	1000

$E = 1.75 \pm 0.1$, $D = 1.5 \pm 0.1$, $D1 = 1.5 + 0.25 / -0.0$, $P0 = 4.0 \pm 0.1$, $P2 = 2.0 \pm 0.1$

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