

## 产 品 规 格 书

### SPECIFICATIONS FOR PRODUCT

产品类型 TYPE : Crystal Oscillator

产品规格 SPEC : 3.579545MHz/7050/3.3V

产品型号 P/N : CJ003-035793320A30

日期 DATE : 2019/07/03

<b>核准及签名</b>			<b>部门</b>
R&D APPR. SIGNATURED			DEPT.
<b>拟制</b>	<b>审核</b>	<b>批准</b>	频率器件事业部
ISSUE	CHECK	APPROVAL	
王嘉诚 2019/07/03	许秋菊 2019/07/03	杨立新 2019/07/03	

江 苏 长 晶 科 技 有 限 公 司

JIANGSU CHANGJING ELECTRONICS TECHNOLOGY CO., LTD

地址：中国江苏省南京江北新区产业技术研创园江淼路88号腾飞大厦C座13楼

Add: 13Th Floor, C Block, Tengfei Building, No. 88 Jiangmiao Rd. Pukou

District, Nanjing City, Jiangsu Province, China

**SMD7.0 \* 5.0 Crystal Oscillator****CJO03-035793320A30****1. Scope:**

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

**2. Construction:**

- 2.1 Oscillators series: SMD 7×5 XO  
2.2 Package: SMD 7×5

**3. Electrical Characteristics**

- |      |  |   |
|------|--|---|
| 3.1  | Nominal Frequency:                               | 3.579545MHz                             |
| 3.2  | Frequency Stability:<br>(incl. 25°C tolerance, ) | ±20 ppm                                 |
| 3.3  | Aging:   | ±3ppm/year                              |
| 3.4  | Operating Temperature Range:                     | -20 °C to +70°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:                                  | 10ns 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 | Standby current:                                 | 10µA max                                |
| 3.16 | Period Jitter :                                  | 40ps max                                |
| 3.17 | Oscillation mode:                                | A1                                      |
| 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 3.579545MHz SMD 7×5 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%.

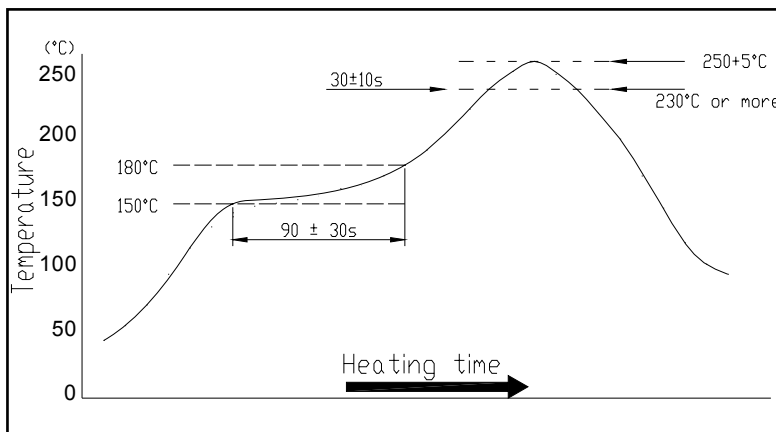
NO.	ITEM	SPECIFICATION	TEST METHOD
4.1	Temperature Cycle (GB/T 2423.22-2002, Method Nb)	Frequency change after test≤±5ppm.	10 cycles from -55°C to 125°C. Measurement taken after DUT being left at room temperature for 24±2 hours.
4.2	Low Temperature Storage (GB/T 2423.1-2001, Method Aa)	Frequency change 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 <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≤±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:  $250^{+5}_0$  °C Soldering zone: 230°C or more, 30±10s.

Pre-heating zone 1: 150~180°C, 90±30s



Temperature profile for reflow soldering

### 6. Soldering iron method

Bit temperature: 350±10°C Application time of soldering iron: 3+1 s

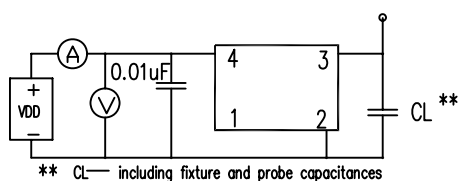
For other procedures, refer to IEC 60068-2-20.

#### PIN CONNECTION

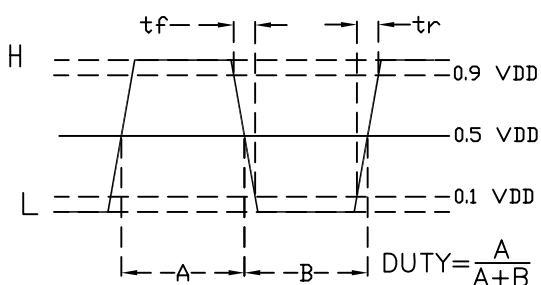
P/N	CJO03
1	Enable/Disable *
2	GND
3	Output
4	VDD

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

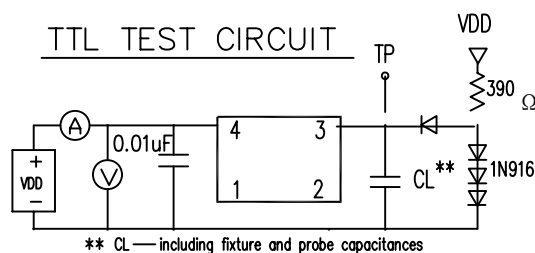
#### CMOS TEST CIRCUIT



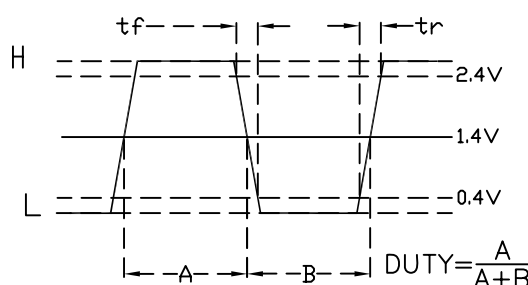
#### TYPICAL CMOS WAVE FORM



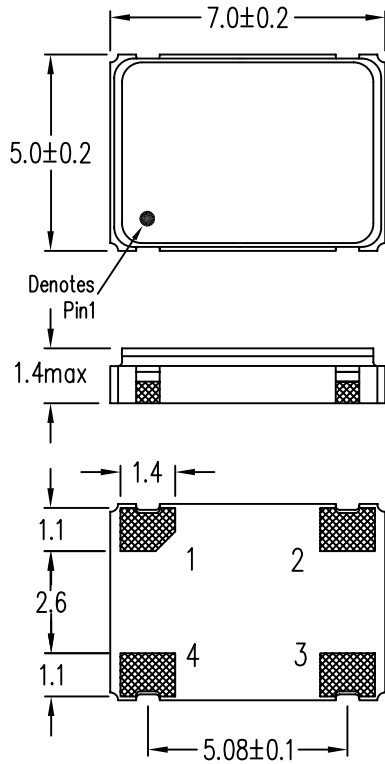
#### TTL TEST CIRCUIT



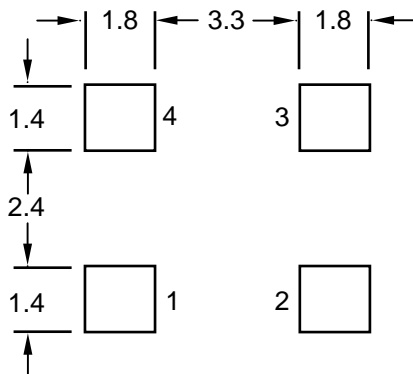
#### TYPICAL TTL WAVE FORM



## Package Outline Dimensions

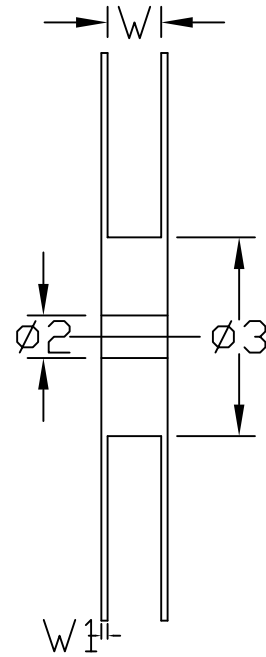
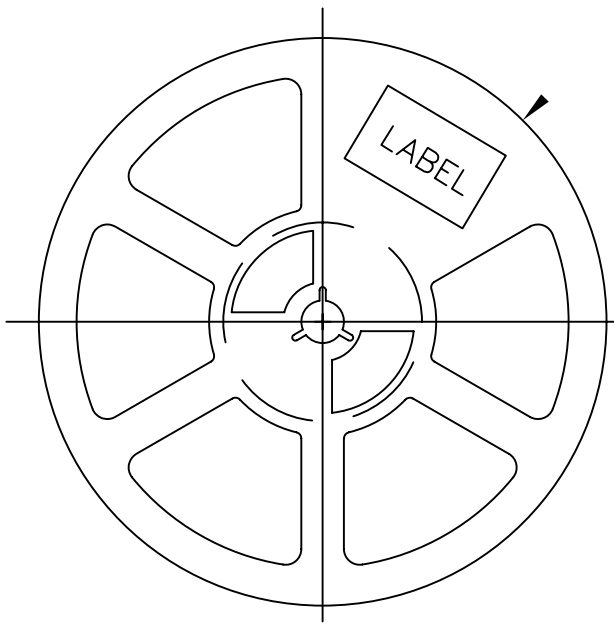


## Suggested Pad Layout



### NOTICE

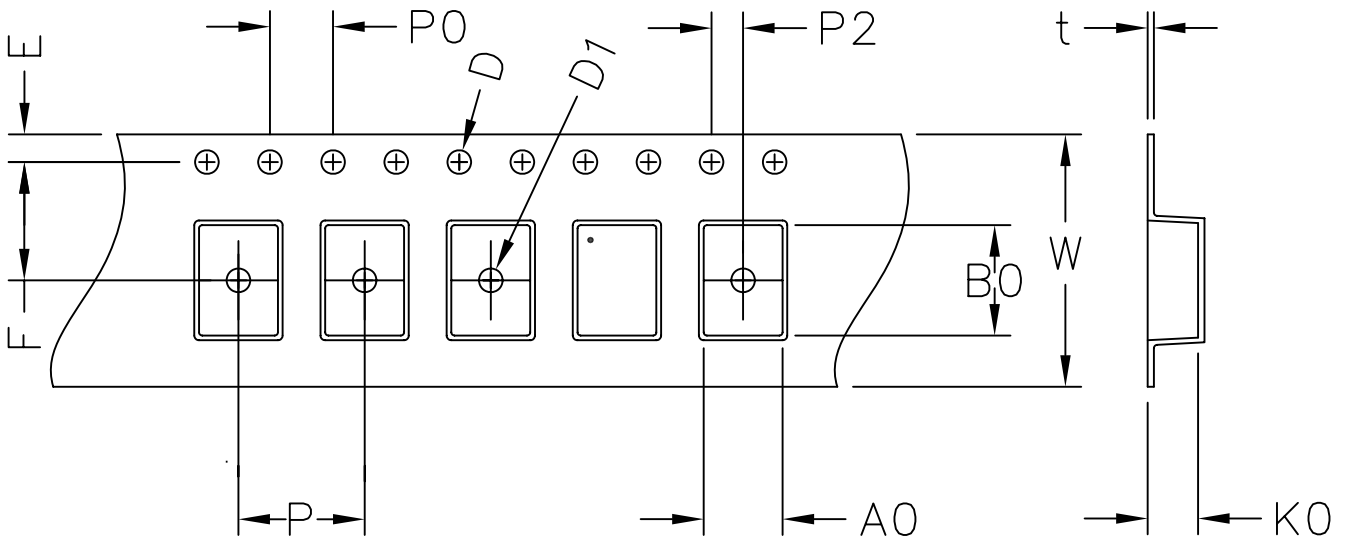
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REEL DIMENSIONS

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	5.5	7.5	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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