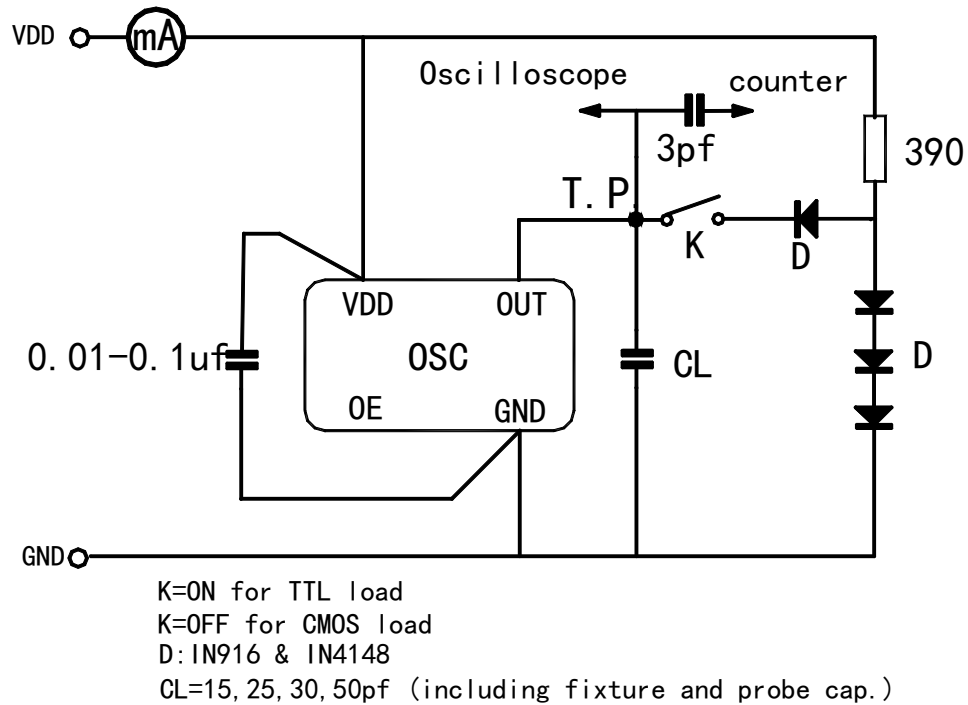


SPECIFICATION OF CLOCK OSCILLATOR	
1. TYPE 2. GENETAL 2.1 NOMINAL FREQUENCY (Fo) 2.2 Output 2.3 OPERATING TEMPERATURE RANGE (To) 2.4 STORAGE TEMPERATURE RANGE (Ts) 2.5 Input Voltage(VI) 3. ELECTRICAL CHARACTERISTICS: (This test shall be performed under the conditions of temperature at 25°C± 2°C, humidity 60% max) 3.1 FREQUENCY STABILIT 3.2 INPUT CURRENT 3.3 Duty 3.4 Rise Time(Tr) 3.5 Fall Time (Tf) 3.6 Fanout 3.7 Start up time 3.8 Jitter 3.9 Output wave form 4.0 Aging	XO SMD5032 32.768KHz HCMOS/TTL -20 °C to+70 °C -55 °C to+125 °C 3.3V ±20PPM 10Ma max 45/55% 6ns max 7ns max 15PF/10TTL 10Ms max 50Ps max(12KHz-20MHz) Square ±5PPM Max for the first year

◆ MEASUREMENT

item	REQUIREMENT
Test instrument	It shall be measured by Auto laser-detecting reeler (HUMO)
Test circuit	See Fig.2
Measurement	Standard condition: (1) Temperature 25 ±3°C (2) Relative humidity 60± 10% R.H
Condition	The measurement shall be in the temperature range of 5°C to 35°C and relative humidify range of 45% to 85% when there are no faults

Fig. 2



◆ MEASUREMENT CONDITIOINS:

- 1, OSILLOSCOPE
Impedance: No less than 1M.
Capacitance: no more than 15pf.
Band width: No less than 500MHz.
- 2, Grounding should be single-point grounding.
- 3, Supply impedance should be as low as possible, 0V- 4.5V rise time is No less than 150us.
- 4, use an ammeter with small internal impedance.

This standard is defined in accordance with IEC1178-1: 1993.OC6800000 and GB/T12273-1996.

◆ PHYSICAL CHARACTERISTICS

Test Item	Condition of test	Performance Requirements
Shock (Destructive)	Resonator shall be tested after 3 times random drops from the height of 20-75 cm onto hard wooden board of thickness more than 30 mm.	No visible damage, and measured Values shall meet Table 1.
	Frequency (MHz)	
	Osc. Model	
	Height (cm)	
	1.8-7.5	
	Fund.	
	75	
	7.51-10	
	Fund.	
	50	
	10.01-27	
	Fund.	
	25	
	>27	
	Fund.	
	20	
	24-30	
	3 rd	
	50	
	30.01-65	
	3 rd	
	25	
	>65	
	3 rd	
	20	
Vibration (Destructive)	Subject resonator to following vibration Frequency: 10-55Hz Amplitude: 1.5mm Cycle time: 1~2min(10-55-10Hz) Duration: 3 mutually perpendicular Planes in each 2 hours Direction: X, Y, Z	No visible damage, and measured Values shall meet Table 1.
Aging	Put the resonator in somewhere at a temperature of 85°C for 30 days.	Measured Values shall meet Table 1.

■ REMARKS ABOUT SOLDERING:

1, Typical values of reflow conditions

* The solder cream should be used.

Preheating temperature: 150± 5°C

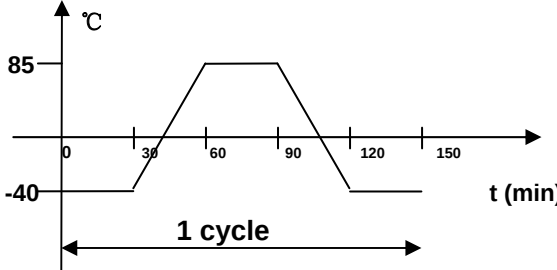
Soldering temperature: 240°C max

Solder reflow time: 3 min. max

2, method of soldering with soldering iron

Soldering should be completed within 10 seconds with the soldering iron heated to a tip temperature no higher than 270°C.

◆ **ENVIRONMENT ENDURANCE:**

Test Item	Condition of test	Performance Requirements
Heat Resistance (non-destructive)	Subject resonator to $85\pm 5^{\circ}\text{C}$ for 96 hours, then place the resonator in natural condition for 1 hour.	No visible damage, measured Values shall meet Table1.
Cold Resistance (non-destructive)	Subject resonator to $-40\pm 5^{\circ}\text{C}$ for 96 hours, then, place the resonator in natural condition for 1 hour.	No visible damage, measured Values shall meet Table 1.
Humidity	Keep the resonator at $40\pm 2^{\circ}\text{C}$ and 90-95% R.H. for 96 hours. Then place it in natural condition for 1 hour.	The freq. meet $ \Delta f \leq 5\text{ppm}$ and C.I. $\leq 5\%$
Temperature shock	Temperature shaft from low to high, high to low For 100 times. And then put the resonator in natural Condition for 1 hour. 	No visible damage, measured Values shall meet Table 1..
Salt Spray test	Put the resonator in the salt spray room (salt. density: 5%) at a temperature of 35°C for 96 hours. Water cleaning and wiped up the moisture on its.	Visual inspection without noticeable corrosion unit, and measured values meet the table1.

◆ **CHARGE OF CHARACTERISTICS**

Table 1

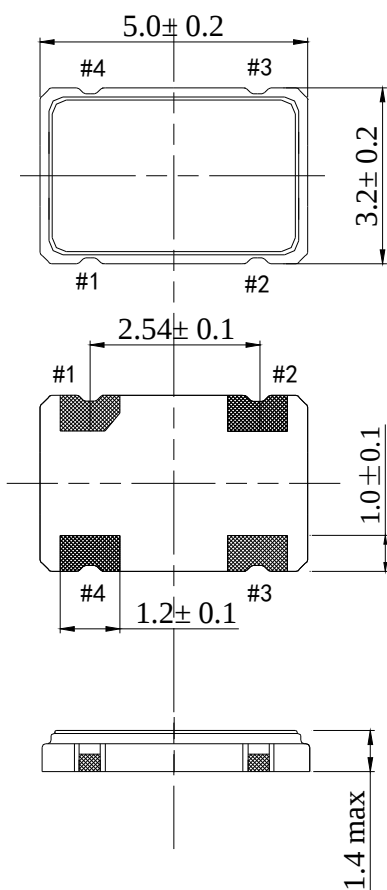
Test Item	Specification	Note
Frequency change ($\Delta f/f_0$)	No more than 10ppm	
C.I. (R)	No more than 15%	Reference to the initial value

◆ **REVIEW OF SPECIFICATIONS**

When something gets doubtful with these specifications, we shall jointly work to get an agreement.

◆ DIMENSIONS: (UNIT: mm)

FIG.1



recommended
soldering pattern.

