

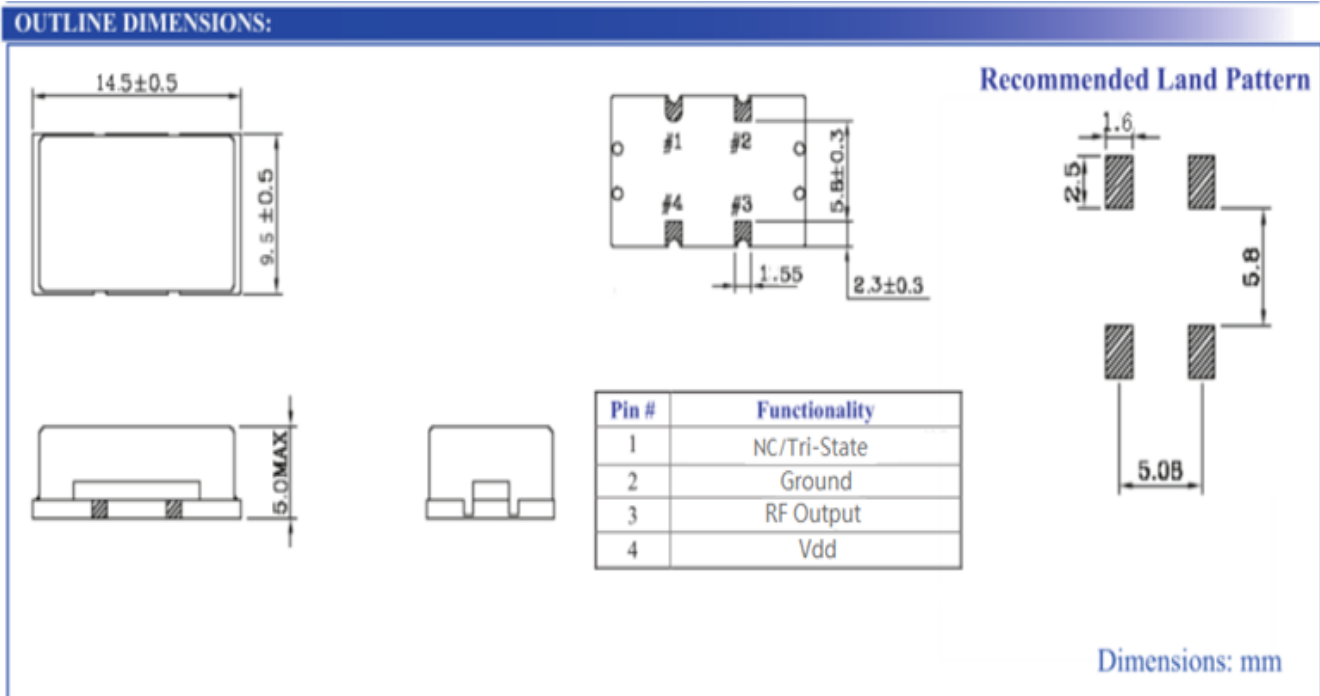
Crystal Clock Oscillator

1. Specifications

1.Part No.		OSC24M-5I/S149-50T
2.Nominal Frequency		24.000000 MHz
3.Frequency Stability*		± 50 PPM
4.Temperature Range	Operating	-40℃ ~ +85℃
	Storage	-55℃ ~ +125℃
5.Supply Voltage (V _{DD})		5.0V ±10%
6.Current Consumption		☒ 0.500 MHz ~ 25.000 MHz : 5.0 mA (Max) ☐ 25.001 MHz ~ 50.000 MHz : 10.0 mA (Max) ☐ 51.000 MHz to 100.000 MHz : 30.0 mA (Max) ☐ 101.000 MHz to 160.00 MHz : 40.0 mA (Max)
7.Output Voltage	Logic High (V _{OH})	90%V _{DD} (Min)
	Logic Low (V _{OL})	10%V _{DD} (Max)
8.Output Load		15 pF
9.Symmerty (at 50% V _{DD})		☒ 45 ~ 55% Tight
10.Rise / Fall time		6 ns (max)
11.Start-up Time		0.500~32.000 MHz : 5 ms (max) 32.001~160.000 MHz : 10 ms (max)
12.Tri-state E/D (Pin1)		Enable : NC or High, Output Active Disable: Low, Output is High-Impedance
13. Aging / Year (at 25 °C)		±3 PPM (max)
14.Phase Jitter		0.3 ps (typ)

* Inclusive of tolerance at 25 °C, operating temperature range, supply voltage, load changed & aging in the first year.

2. Dimension (mm)



*

2.1 Marking

YIC: Yuechung International Corp.

xx.xx: Frequency in MHz

m: Month

☐A: JAN ☐B: FEB ☐C: MAR ☐D: APR ☐E: MAY ☐F: JUN

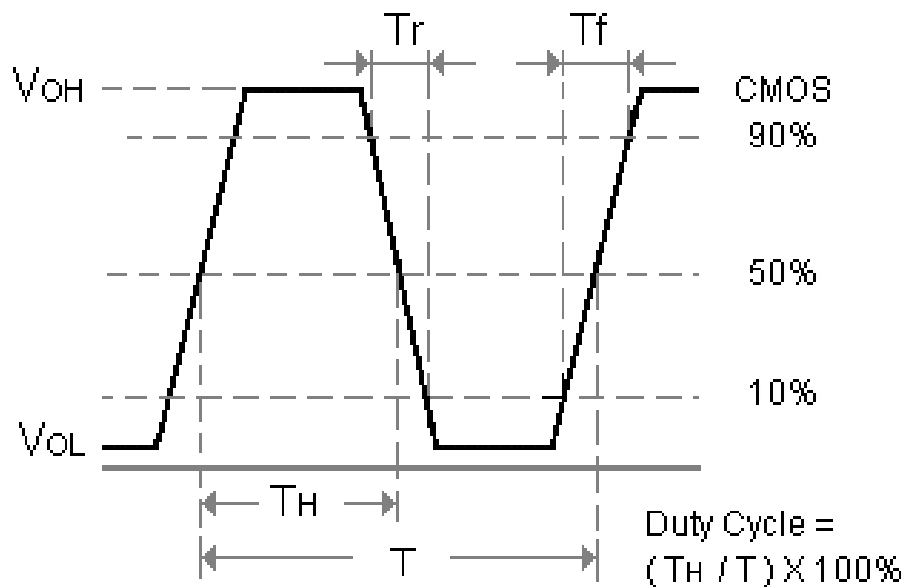
☐G: JUL ☐H: AUG ☐I: SEP ☐J: OCT ☐K: NOV ☐L: DEC

y: Year

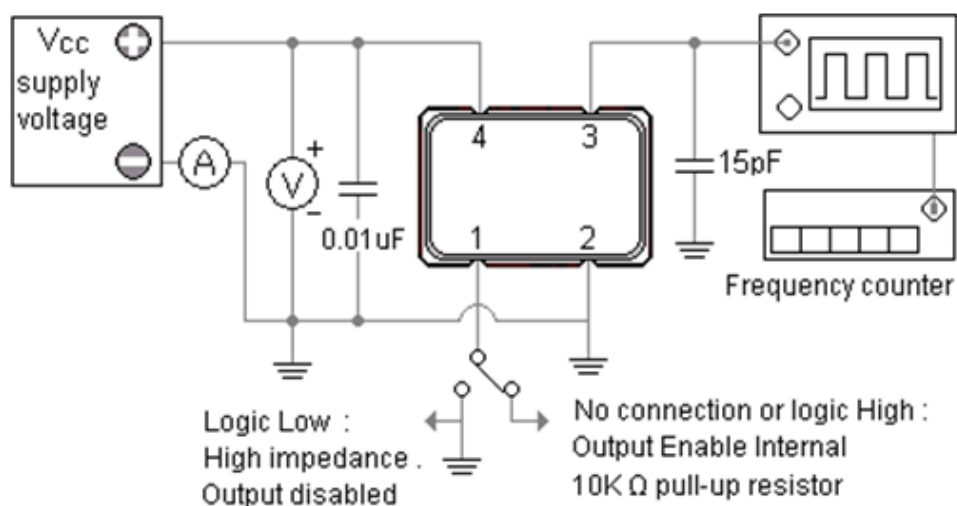
☐7:2017 ☐8:2018 ☐9:2019 ☐0:2020 ☐1:2021

☐2:2022 ☐3:2023 ☐4:2024 ☐5:2025 ☐6:2026

3. Output Waveform

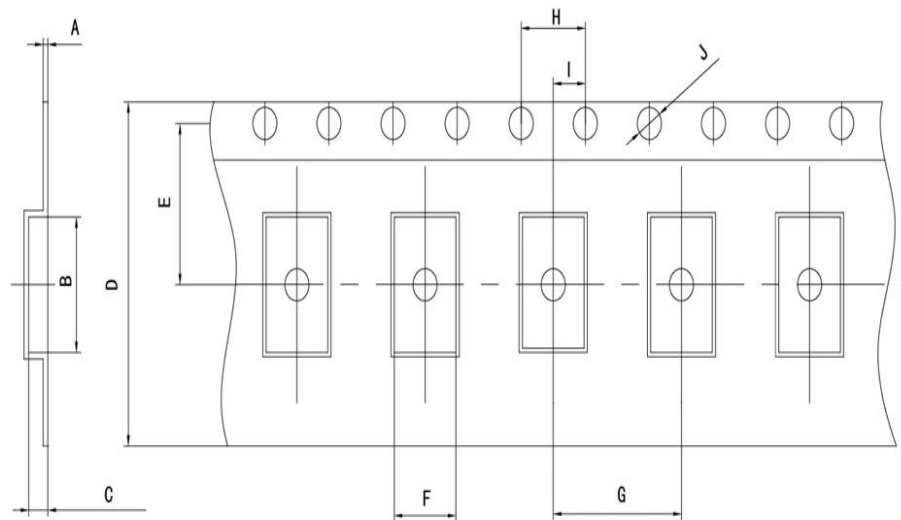
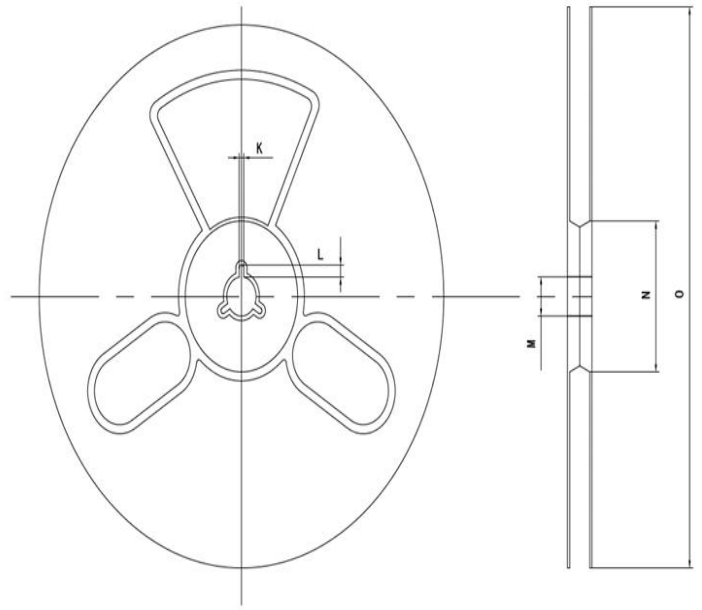


4. Test Circuit



5. Packing

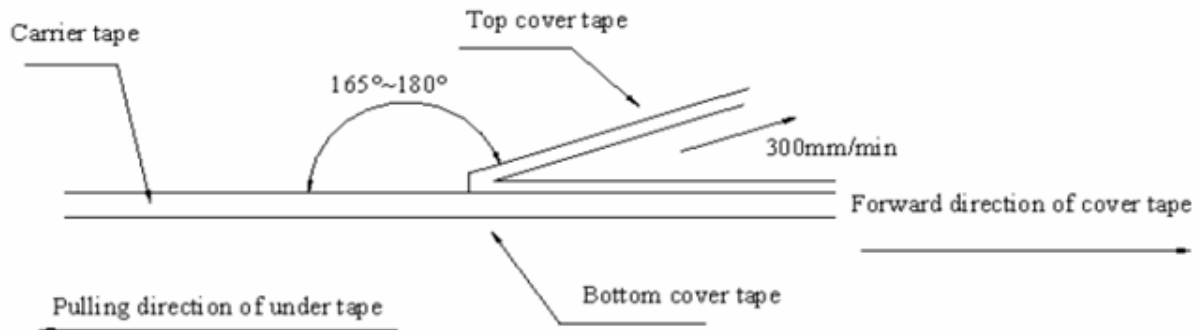
Taping Specifications



Pocket Tape Dimensions(mm)

Series	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
SOMC-330	0.35	14.35	4.90	24.00	11.50	9.35	16.00	4.00	2.00	1.50	2.00	4.00	13.00	60.00	180.00

6. Cover Tape Adhesion Strength

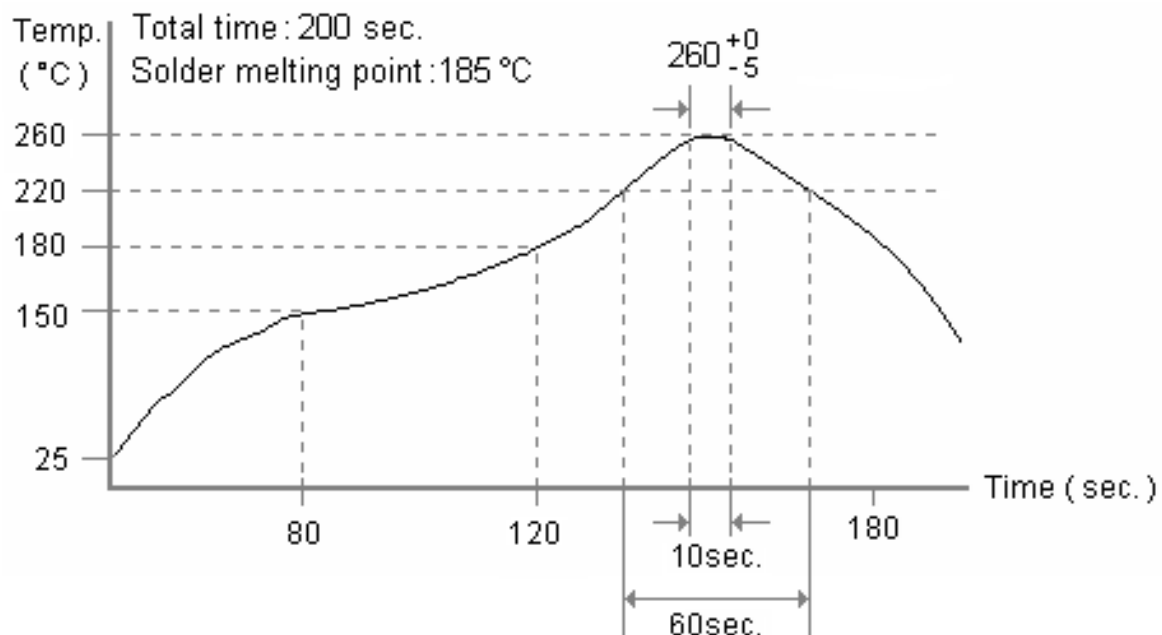


*** In the case, the cover tape is pulled off under the above conditions, the cover tape adhesion strength should be 10.2g~71.4g

Plastic tape: 10.2g~71.4g

(Cover tape adhesion strength)

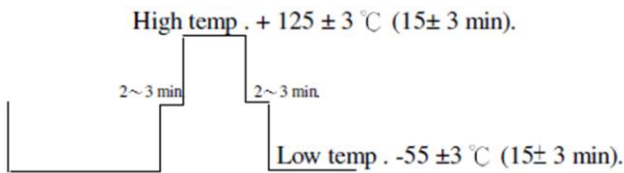
7. Reflow Profile



8. Mechanical Performance

TEST ITEMS	TEST METHODS AND TEST CONDITION	PERFORMANCE
8.1 Drop Test	The specimen is measured for its frequency and resistance before the test. It is then dropped from a height of 100 cm or more as a free fall object onto a hard wooden plate of 30mm or more in thickness. (in accordance with JIS-C0044)	To satisfy the electrical performance .
8.2 Vibration Test	The specimen is measured for its frequency and resistance before the test. Most them into X,Y and Z axes, respectively, for the vibration test. Vibration condition: Frequency range ; 20 ~ 2000HZ Peak to peak amplitude : 1.52 mm Peak acceleration : 20G Sweep time : 20 minute / axis Pendicular total test time : 4 hours (in accordance with MIL-STD-883F : 2007.3)	
8.3 Resistance to Soldering Test	The specimen is measured for its frequency and resistance before the test. Place the specimen on the belt of the conveyance and let it pass through the reflow with the presetted temperature condition. After passing twice the reflow place,the specimen under the referee condition for 1~2 hours and then measure its electrical performance. Temperature Condition of IR Simulation: The temperature range of the preheated section is setted at 150 ~ 180 °C for 60 ~ 120 sec. For the next section the temperature range is setted at 217~260 for 45 ~ 90 sec. and within this time range the specimen should be able to sustain at the peak temperature, 260+/-3 °C ,for 10 sec long. (in accordance with JESD22-B106-B)	
8.4 Fine Leak Test	Place the specimen in a pressurized container and pressurize it with the detection gas (mixed gas consisting of 95% or more helium) for at least 2 hours. Complete the measurement of the concentration of helium within 30 min after taking it out from the pressurized container. (in accordance with MIL-STD-883F : 1014.11)	Less than $1.0 * 10^{-8}$ atm .c.c. / sec, Helium
The referee condition Temperature 25 ± 2 °C Humidity 44 ~ 55% Pressure 86 ~106 kPa (in accordance with MIL-STD-883E : 1014. 9)		

9. Environment Performance

TEST ITEMS	TEST METHODS AND TEST CONDITION	PERFORMANCE
9.1 Low Temp Exposure Test	The specimen is measured for its frequency and resistance before the test . Place the specimen in the chamber and kept it at the temperature of $-40 \pm 3^{\circ}\text{C}$ for 168 ± 6 hours . Take the specimen out of the chamber and measure electrical performance after leaving 1 ~ 2 hours under the referee condition. (in accordance with JIS-C0020)	To satisfy the electrical performance .
9.2 Aging Test	The specimen is measured for its frequency and resistance before the test . Place the specimen in the testing chamber and keep it To satisfy the electrical at the temperature of $+125 \pm 3^{\circ}\text{C}$ for 720 ± 48 hours. And then take the specimen out of the chamber and measure its electrical performance after leaving performance . for 1 ~ 2 hours under the referee condition . (in accordance with JIS-C0021)	
9.3 High Temperature & High Humidity	The specimen is measured for its frequency and resistance before the test . Place the specimen in the testing chamber and kept it at the temperature of $+85 \pm 5^{\circ}\text{C}$ and humidity of $85 \pm 5\%$ for 168 ± 6 hours.and then take the specimen out and measure its electrical performance after leaving for 1 ~ 2 hours under the referee condition. (in accordance with MIL-STD-883F : 1004.7)	
9.4 Temperature Cycle Test	The specimen is measured for its frequency and resistance before the test . Subject the specimen to the 100 cycles of temperature ranges stated below .  High temp . $+125 \pm 3^{\circ}\text{C}$ (15 ± 3 min). 2 ~ 3 min 2 ~ 3 min Low temp . $-55 \pm 3^{\circ}\text{C}$ (15 ± 3 min). Measure its electrical performance after leaving it for 1 ~ 2 hours under the referee condition . (in accordance with MIL-STD-883F : 1010.8)	