

# CRYSTAL OSCILLATOR

## YSO120TK *Wide Voltage*



### Applications

- RTC Camera

### Features

- Frequency range:32.768KHz.
- Ultra Small SMD seam sealed crystal oscillator units.

- Package Size: 1.6x1.2, 2.0x1.6, 2.5x2.0, 3.2x2.5, 5.0x3.2, 7.0x5.0mm

## Specifications

Frequency Range	32.768KHz
Parameter	1.8V~3.3V
Output Type	CMOS
Frequency Tolerance(at 25°C)	±10ppm,±20ppm,or specify
Output Load	15pF
Operating Temperature Range	-40~+85°C,-40~+125°C,or specify
Storage Temperature Range	-55~+125°C
Frequency Versus Temperature Characteristics	± 20ppm, ± 30ppm, ± 50ppm, or specify
Voltage Vol ( Max. ) / Vol ( Min. )	VOH = 90%Vdd/VOL = 10%Vdd
Duty Cycle	45~55%
Start-up Time	3ms Max.
Supply Current	See Below
Frequency Aging (at 25°C)	±3 ppm / year Max.

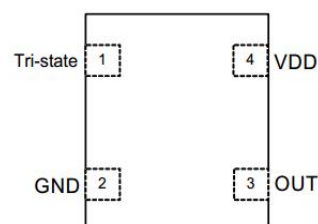
## Current Consumption

Supply Voltage (V)	32.768KHz	
	7050/5032/3225	2520/2016/1612
1.8V	0.2mA max	0.2mA max
2.5V	0.3mA max	0.3mA max
3.3V	0.5mA max	0.4mA max

## Pin Dimension

Pin	#1	#2	#3	#4
FUNCTION	Tri-state	GND	OUTPUT	VDD

### Pin Assignments

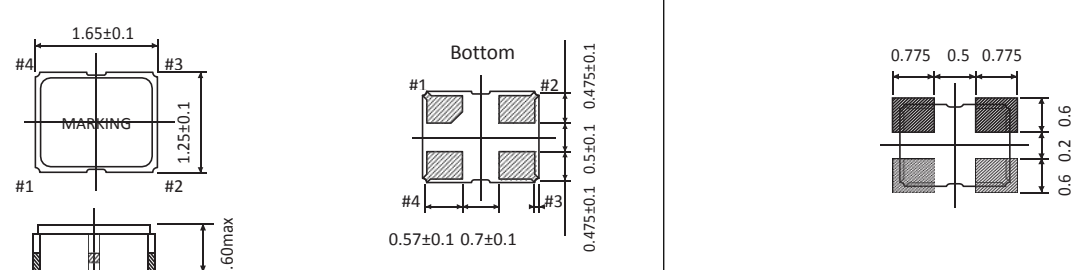
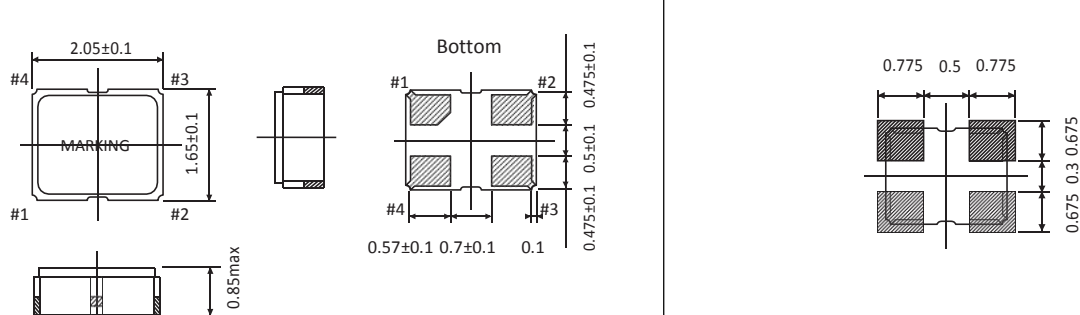
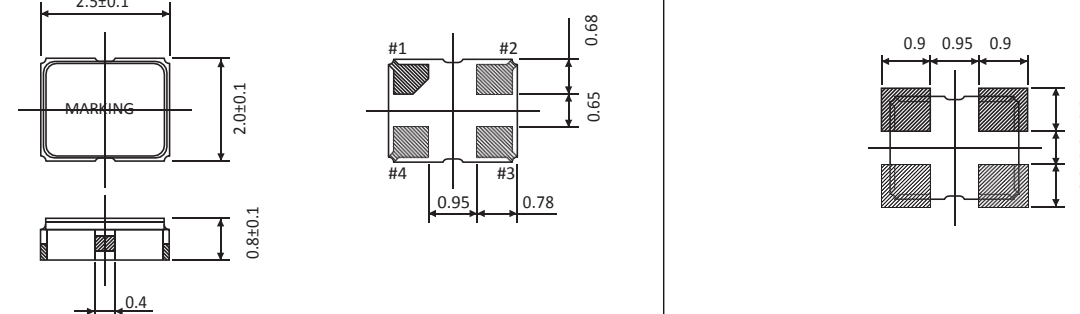
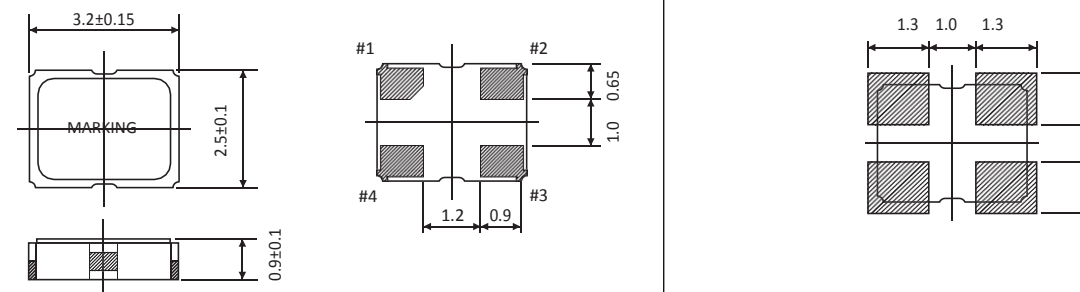


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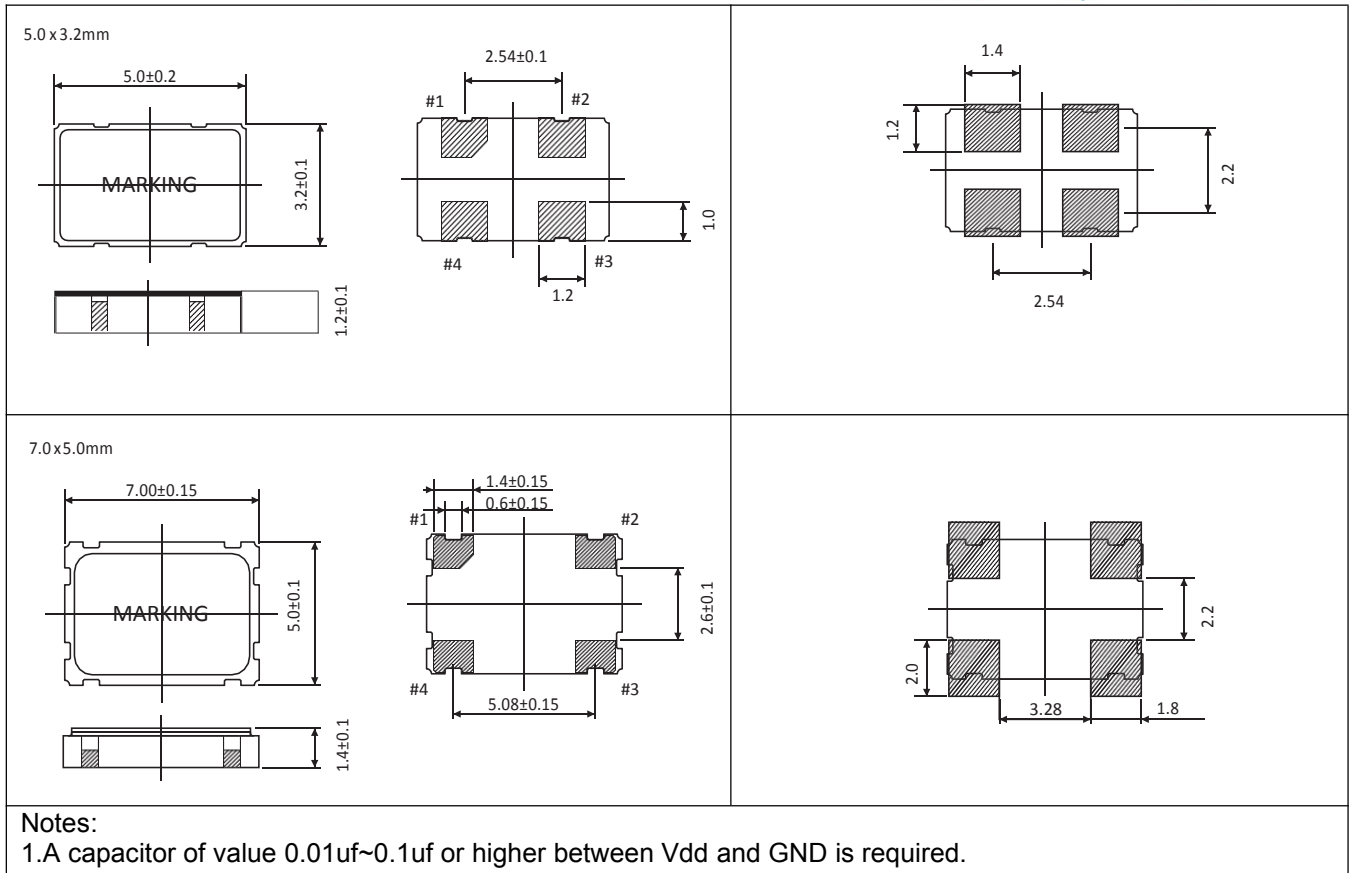


### Dimensions and Patterns [unit:mm]

Package Size – Dimensions (Unit: mm)	Recommended Land Pattern (Unit: mm)
<p>1.6x1.2mm</p> 	
<p>2.0x1.6mm</p> 	
<p>2.5x2.0mm</p> 	
<p>3.2x2.5mm</p> 	

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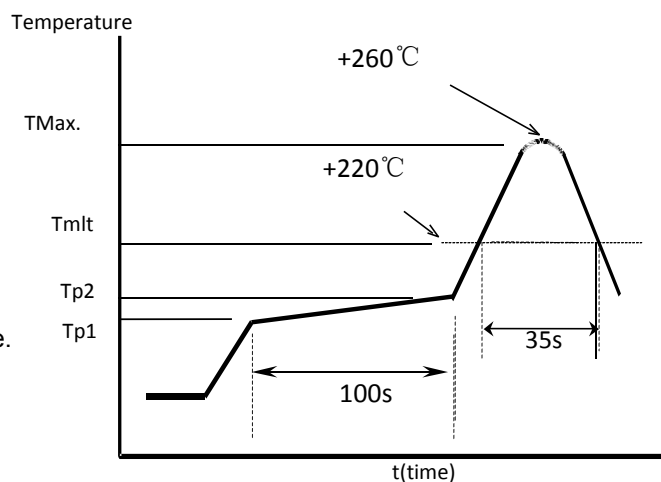
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### Reflow Soldering Profile

Pre Heating Temperature  
Tp1 ~ Tp2 = + 170 °C  
Heating Temperature  
TMIT = + 220 °C  
Peak Temperature  
TMax. = + 260 °C

Point of measuring  
In case of Solder ability Terminal.  
In case of Resistance to soldering heat Surface.

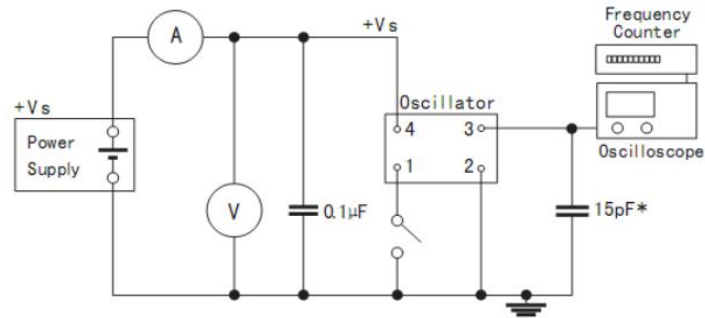


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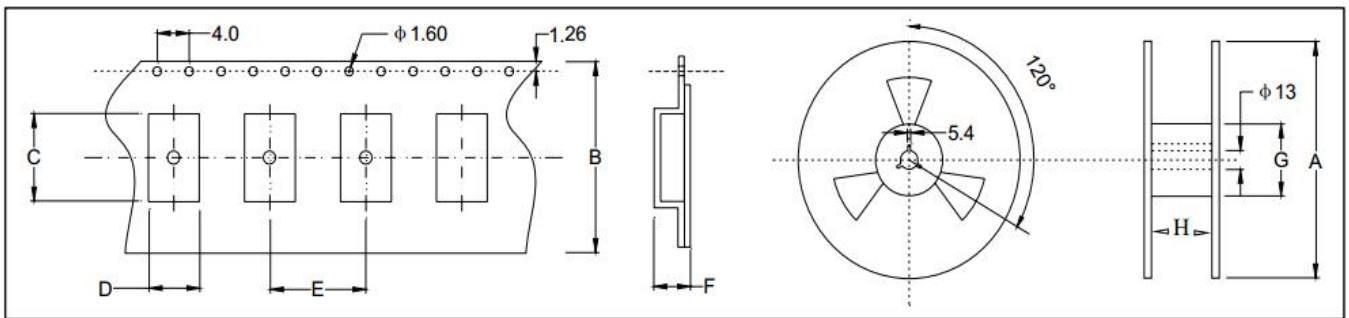
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### Test Circuit



### Taping Specification(Unit: mm)



Size(OSC)	A	B	C	D	E	F	G	H
SMD-7050	180±2.0	16.0±0.3	7.50±0.1	5.50±0.1	8.0±0.1	2.00±0.1	61.0±1.0	16.0±1.0
SMD-5032	180±2.0	12.0±0.3	5.40±0.1	3.60±0.1	8.0±0.1	1.70±0.1	61.0±1.0	12.0±1.0
SMD-3225	180±2.0	8.0±0.3	3.40±0.1	2.70±0.1	4.0±0.1	1.50±0.1	61.0±1.0	8.0±1.0
SMD-2520	180±2.0	8.0±0.3	2.90±0.1	2.40±0.1	4.0±0.1	1.20±0.1	61.0±1.0	8.0±1.0
SMD-2016	180±2.0	8.0±0.3	2.30±0.1	1.90±0.1	4.0±0.1	0.95±0.1	61.0±1.0	8.0±1.0
SMD-1612	180±2.0	8.0±0.3	1.80±0.1	1.40±0.1	4.0±0.1	0.80±0.1	61.0±1.0	8.0±1.0