

# CRYSTAL OSCILLATOR

## YSO110TR Wide Voltage



### Applications

- Consumer Electronics
- Industrial Control
- IOT

### Features

- Frequency range:1MHz-54MHz
- Ultra Small SMD seam sealed crystal oscillator units.

- Package Size: 1.6\*1.2 , 2.0\*1.6  
2.5\*2.0 , 3.2\*2.5 , 5.0\*3.2 , 7.0\*5.0mm

## Specifications

|  |                                       |
|--|---------------------------------------|
| Frequency Range                              | 1MHz to 54MHz, or specify             |
| 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.                              |
| Rise Time/Fall Time                          | 4nS Max                               |
| Supply Current                               | See Below                             |
| Frequency Aging (at 25°C)                    | ±3 ppm / year Max.                    |

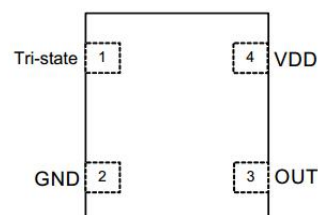
## Current Consumption

| Power Dissipation Vcc=1.8~3.3V 15pF only |                 |                |                     |           |
|--|-----------------|----------------|---------------------|-----------|
| Supply Voltage (V)                       | 1.000~40.000MHZ |                | 41.000~54.000MHZ    |           |
|  | 7050/5032/3225  | 2520/2016/1612 | 7050/5032/3225/2520 | 2016/1612 |
| 1.8V                                     | 4mA max         | 4mA max        | 9mA max             | 10mA max  |
| 2.5V                                     | 4.5mA max       |                | 10mA max            |           |
| 3.3V                                     | 5mA max         |                | 12mA 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>1.6*1.2mm</p>                     |                                     |
| <p>2.0*1.6mm</p>                     |                                     |
| <p>2.5*2.0mm</p>                     |                                     |
| <p>3.2*2.5mm</p>                     |                                     |

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|   |  |
|---|--|
| <p>5.0*3.2mm</p>  |  |
| <p>7.0*5.0mm</p>  |  |
| <p><b>Notes:</b><br/>1.A capacitor of value 0.01uf~0.1uf or higher between Vdd and GND is required.</p> |  |

### Reflow Soldering Profile

Pre Heating Temperature

Tp1 ~ Tp2 = + 170 °C

Heating Temperature

TMI = + 220 °C

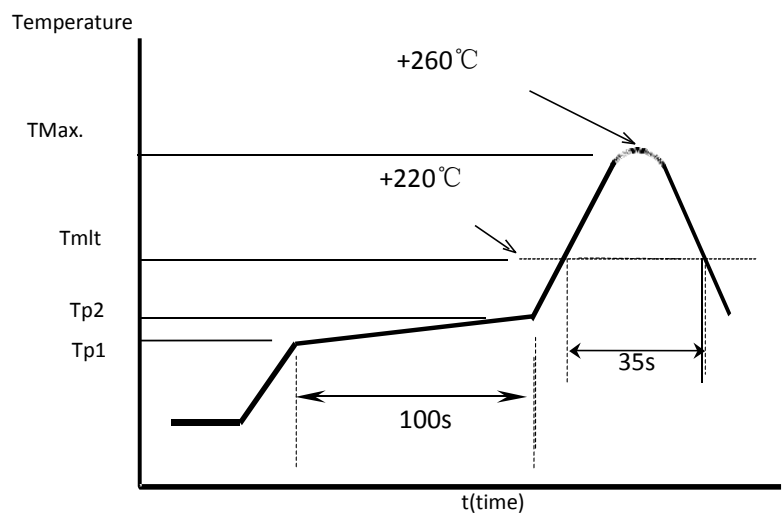
Peek Temperature

TMax. = + 260 °C

Point of measuring

In case of Solder ability Terminal.

In case of Resistance to soldering heat Surface.



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### 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  |