

# Crystal Oscillator

## YSO110TR Wide Voltage



### Applications

- IOT
- Industrial Control
- Consumer Electronics

### Features

- Frequency Range: 1MHz ~ 125MHz
- Ultra Small SMD Seam Sealed Crystal Oscillator

- 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 (规格参数)

| Item   | Symbol                            | Specifications  |
|--|-----------------------------------|---|
| Frequency Range (额定频率范围)                               | $f_0$                             | 1MHz ~ 125MHz   |
| Supply Voltage (电源电压)                                  | VDD                               | 1.8V ~ 3.3V   |
| Output Type (输出方式)                                     | -                                 | CMOS  |
| Frequency Tolerance (频率偏差) (at 25°C)                   | $f_{tol}$                         | $\pm 10\text{ppm}$ , $\pm 20\text{ppm}$ , or specify                      |
| Output Load (输出负载)                                     | $L_{cmos}$                        | 15pF  |
| Operating Temperature (工作温度)                           | $T_{use}$                         | -40~+85°C, or specify   |
| Storage Temperature (储存温度)                             | $T_{stg}$                         | -55~+125°C  |
| Frequency Versus Temperature Characteristics (频率-温度特性) | $f_{tem}$                         | $\pm 20\text{ppm}$ , $\pm 30\text{ppm}$ , $\pm 50\text{ppm}$ , or specify |
| Output Voltage (输出电压)                                  | Voh                               | 90%VDD Min  |
|  | Vol                               | 10%VDD Max  |
| Duty Cycle (占空比)                                       | SYM                               | 45~55%  |
| Start-up Time (启动时间)                                   | $t_{str}$                         | 3ms Max   |
| Rise Time/Fall Time (上升沿/下降沿)                          | tr/tf                             | 4ns Max   |
| Phase Jitter [12 kHz ~ 20 MHz] (相位抖动)                  | tpj                               | 0.7ps Max   |
| Frequency Aging (老化) (at 25°C)                         | $f_{age}$                         | $\pm 3\text{ppm/year}$ Max  |
| Tri-State  | Enable (High Voltage or Floating) | 70% of VDD Min  |
|  | Disable (Low Voltage or GND)      | 30% of VDD Max  |

## Current Consumption (消耗电流)

| Power Dissipation Vcc=1.8~3.3V 15pF only |                 |                |                     |           |                               |
|--|-----------------|----------------|---------------------|-----------|-------------------------------|
| Supply Voltage                           | 1.000~40.000MHZ |                | 41.000~54.000MHZ    |           | 55.000~100.000MHZ             |
|  | 7050/5032/3225  | 2520/2016/1612 | 7050/5032/3225/2520 | 2016/1612 | 7050/5032/3225/2520/2016/1612 |
| 1.8V                                     | 4mA Max         | 4mA Max        | 9mA Max             | 10mA Max  | 35mA Max                      |
| 2.5V                                     | 4.5mA Max       |                | 10mA Max            |           |                               |
| 3.3V                                     | 5mA Max         |                | 12mA Max            |           |                               |

Please contact us for current consumption for frequencies above 100MHz

# Crystal Oscillator

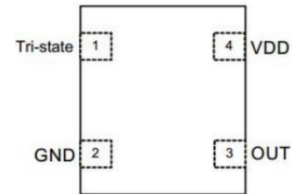
## YSO110TR Wide Voltage



### Pin Dimension (脚位尺寸)

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

### Pin Assignments



\*The picture on the right is only for PIN function description.

### Dimensions and Recommended Land Pattern (外观尺寸及推荐焊盘)

| 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>      |                                     |

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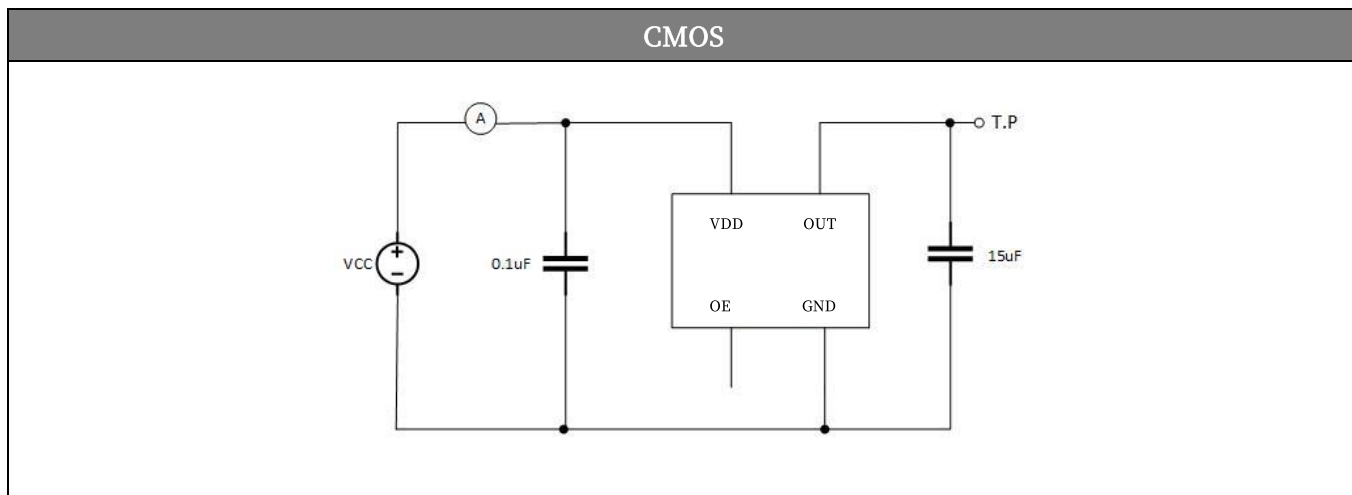
|  |  |
|--|--|
| <p>3.2*2.5mm</p>   |  |
| <p>5.0*3.2mm</p>   |  |
| <p>7.0*5.0mm</p>   |  |
| <p>Notes:</p> <p>1.A capacitor value-0.01uf~0.1uf or higher between Vdd and GND is required.</p> |  |

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### Test Circuit (测试电路)



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