

# Crystal Oscillator

## YSO110TR Wide Voltage

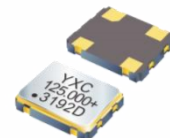


### Applications

- IOT
- Industrial Control
- Consumer Electronics

### Features

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



## Specifications (规格参数)

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

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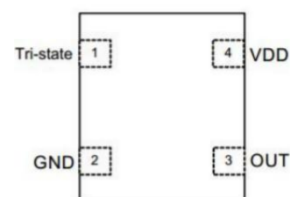


### Pin Dimension (脚位尺寸)

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

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

### Pin Assignments



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

| Dimensions (Unit: mm)                               | Recommended Land Pattern (Unit: mm)  |
|-----------------------------------------------------|--------------------------------------|
| <p>Top View</p> <p>Side View</p> <p>Bottom View</p> | <p>Recommended soldering Pattern</p> |
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|  |                                      |
|--|--------------------------------------|
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Notes:  
1.A capacitor value-0.01uf~0.1uf or higher between Vdd and GND is required.

### Test Circuit (测试电路)

