

# Temperature Compensated Voltage Control

## YSV350TP

## VC-TCXO



### Applications

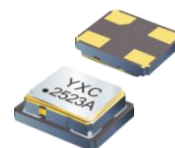
- Mobile Communications

### Features

- Wide Frequency Range: 6.4 ~ 60.0 MHz

- Frequency Stability as Tight as  $\pm 0.5\text{ppm}$  Over  $0^{\circ}\text{C}$  to  $50^{\circ}\text{C}$

- Frequency Stability as Tight as  $\pm 1.0\text{ppm}$  Over  $-40^{\circ}\text{C}$  to  $85^{\circ}\text{C}$



## Specifications (规格参数)

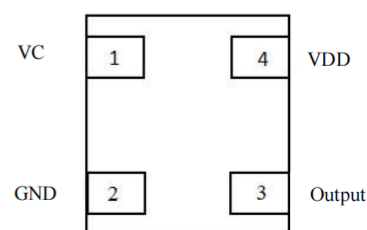
| Item / Type                                                                  |                                        |              | CMOS                                                                  |                                        | Clipped Sine Wave |                           |                            |
|------------------------------------------------------------------------------|----------------------------------------|--------------|-----------------------------------------------------------------------|----------------------------------------|-------------------|---------------------------|----------------------------|
| Frequency Range<br>额定频率范围                                                    |                                        |              | 6.4MHz ~ 60MHz                                                        |                                        | 10MHz ~ 52MHz     |                           |                            |
| Operating Temperature Range<br>工作温度                                          |                                        |              | -30~+85°C, or specify                                                 |                                        |                   |                           |                            |
| Storage Temperature Range<br>储存温度                                            |                                        |              | -55°C to +125°C                                                       |                                        |                   |                           |                            |
| Frequency Stability vs Temperature                                           |                                        |              | ± 0.5ppm, ± 1.0ppm, ± 1.5ppm, ± 2.0ppm, ± 2.5ppm, ± 3.0ppm            |                                        |                   |                           |                            |
| Supply Voltage<br>电源电压                                                       |                                        |              | 1.8V, 2.5V, 2.8V, 3.0V, 3.3V                                          |                                        |                   |                           |                            |
| Initial Calibration Tolerance<br>初始校准公差                                      |                                        |              | Models with mechanical trimmer : <± 1.0ppm. +25°C ± 2°C               |                                        |                   |                           |                            |
| Output Load<br>输出负载                                                          |                                        |              | 15 pF                                                                 |                                        | 10 KΩ // 10 pF    |                           |                            |
| Duty Cycle<br>占空比                                                            |                                        |              | Standard: 50 % ± 10 % ; Option: 50 % ± 5 %                            |                                        |                   |                           |                            |
| Electrical Frequency Tuning<br>(EFC )<br>by External Control Voltage<br>电频调谐 | Control Voltage Center                 |              | 0.9 V ± 0.6 V(1.8 V); 1.4 V ± 1.0 V(2.5V); 1.5 V ± 1.0 V(3.0V / 3.3V) |                                        |                   |                           |                            |
|                                                                              | Frequency Deviation Range              |              | ± 5.0ppm (min.)                                                       |                                        |                   |                           |                            |
|                                                                              | Slope Polarity<br>(Transfer Function ) |              | Positive slope. Positive voltage for positive frequency shift         |                                        |                   |                           |                            |
|                                                                              |                                        |              | Input Impedance :<br>1.0MΩ (min.)                                     | Modulation Bandwidth :<br>20KHz (min.) |                   | Linearity : ± 10 % (max.) |                            |
| Frequency Stability<br>频率偏差                                                  | vs Aging at Ta = +25°C                 |              | ± 1.0ppm / year (max.)                                                |                                        |                   |                           |                            |
|                                                                              | vs Voltage Change                      |              | ± 0.3ppm (max. ), for a ±5% input voltage change                      |                                        |                   |                           |                            |
|                                                                              | vs Load Change                         |              | ± 0.3ppm (max. ), for a ±10% load condition change                    |                                        |                   |                           |                            |
|                                                                              | vs Reflow (SMD type )                  |              | ± 1.0ppm (max. ), 1 reflow and measured 24 hours afterwards           |                                        |                   |                           |                            |
| Phase Noise<br>[ dBc / Hz(typ. )]<br>相位噪声                                    | Offset                                 | 10 Hz        | 100 Hz                                                                | 1 KHz                                  | 10 KHz            | 100 KHz                   | Remarks                    |
|                                                                              | 10.0MHz                                | -96 dBc / Hz | -122 dBc / Hz                                                         | -138 dBc / Hz                          | -145 dBc / Hz     | -150 dBc / Hz             | Type:<br>CMOS              |
|                                                                              | 13.0MHz                                | -80 dBc / Hz | -115 dBc / Hz                                                         | -135 dBc / Hz                          | -148 dBc / Hz     | -148 dBc / Hz             | Type:<br>Clipped Sine Wave |

## Pin Description (脚位说明)

| Pin      | #1              | #2     | #3     | #4             |
|----------|-----------------|--------|--------|----------------|
| FUNCTION | Voltage Control | Ground | Output | Supply Voltage |

Notes: The provided pinout is for reference purposes only. The definitive material specification document must be obtained by contacting a sales representative.

### Pin Assignments



Top View

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

| Dimensions (Unit: mm)                                                | Recommended Land Pattern (Unit: mm)  |
|----------------------------------------------------------------------|--------------------------------------|
| <p>2.0*1.6mm</p> <p>Top View</p> <p>Bottom View</p> <p>Side View</p> | <p>Recommended soldering Pattern</p> |
| <p>2.5*2.0mm</p> <p>Top View</p> <p>Bottom View</p> <p>Side View</p> | <p>Recommended soldering Pattern</p> |
| <p>3.2*2.5mm</p> <p>Top View</p> <p>Bottom View</p> <p>Side View</p> | <p>Recommended soldering Pattern</p> |

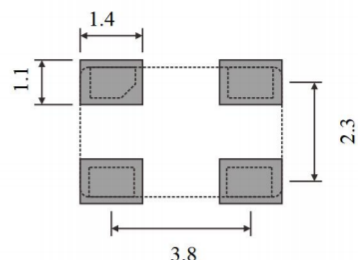
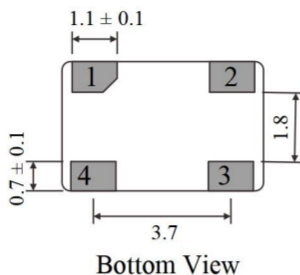
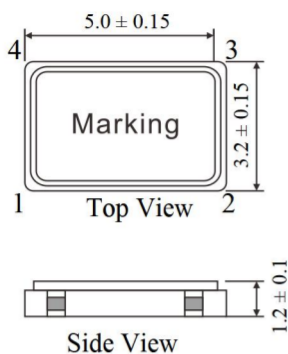
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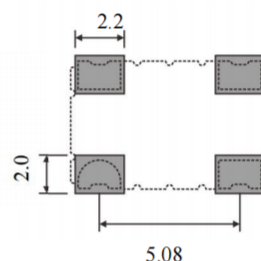
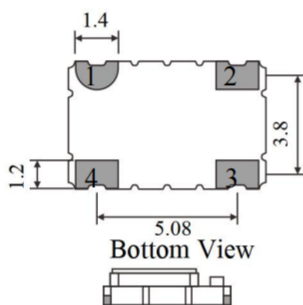
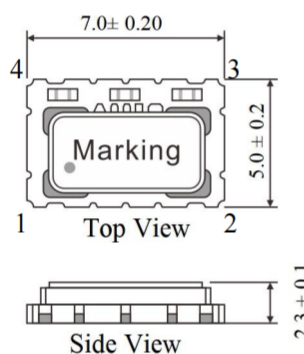


5.0\*3.2mm



Recommended soldering Pattern

7.0\*5.0mm



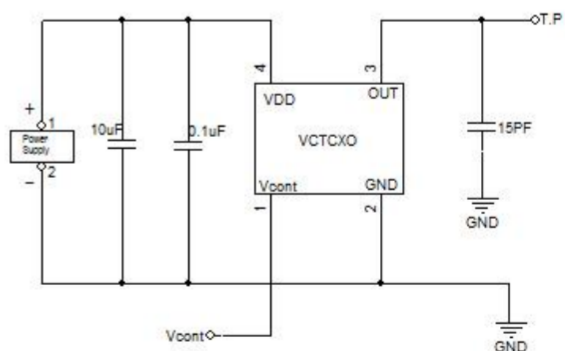
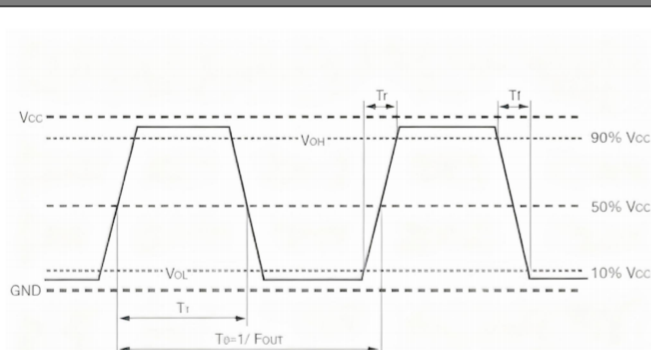
Recommended soldering Pattern

### Notes:

The dimensions are for reference purposes only. The definitive material specification document must be obtained by contacting a sales representative.

## Output Waveform and Test Circuit (输出波形和测试电路)

### CMOS



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Clipped Sine Wave

