

# OV Type

## 5.0 x 3.2 mm SMD Crystal Oscillator

### FEATURE

- Typical 5.0 x 3.2 x 1.2 mm ceramic SMD package.
- Tight symmetry (45 to 55%) available.
- Realize the standby function with Tri-State

### TYPICAL APPLICATION

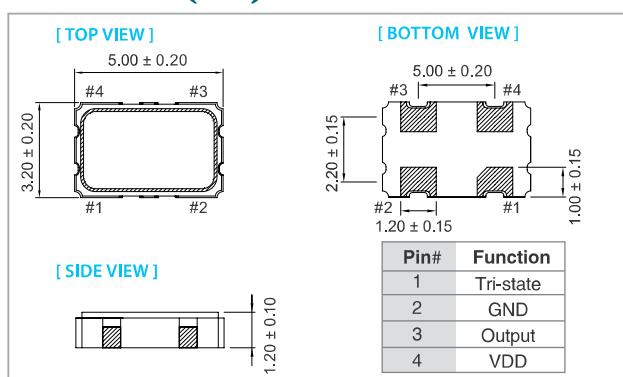
- GPS, Mobile Phone
- WLAN, Wireless, Fiber/10Gbit Ethernet
- Notebook, PDA, DSC

Actual Size 

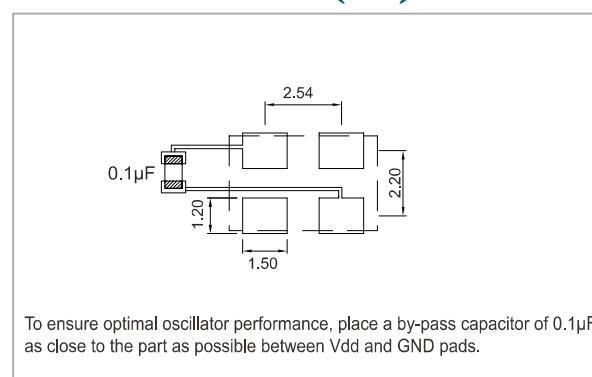


**RoHS Compliant**

### DIMENSION (mm)



### SOLDER PAD LAYOUT (mm)



### ELECTRICAL SPECIFICATION

| Parameter  | 3.3V   |      | 2.5V   |      | 1.8V   |      | unit |
|--|--|------|--------|------|--------|------|------|
|  | Min.   | Max. | Min.   | Max. | Min.   | Max. |      |
| <b>Supply Voltage Variation(VDD) ±10%</b>          | 2.97   | 3.63 | 2.25   | 2.75 | 1.62   | 1.98 | V    |
| <b>Frequency Range</b>                             | 0.0137   | 125  | 0.0137 | 133  | 0.0137 | 125  | MHz  |
| <b>Supply Frequency</b>                            | 2.048, 25, 26, 27, 50, 66.667, 100, 125  |      |        |      |        | MHz  |      |
| <b>Supply Current</b>                              | 13.7 kHz ≤ Fo ≤ 93 kHz<br>0.3125 MHz ≤ Fo < 50 MHz (A1)<br>40 MHz ≤ Fo < 75 MHz<br>75 MHz ≤ Fo < 133 MHz<br>133 MHz ≤ Fo |      |        |      |        |      |      |
|  | —  | 1    | —      | 1    | —      | 1    | mA   |
|  | —  | 10   | —      | 8    | —      | 7    |      |
|  | —  | 20   | —      | 18   | —      | 15   |      |
|  | —  | 35   | —      | 30   | —      | 25   |      |
|  | —  | 45   | —      | 40   | —      | —    |      |
| <b>Output Level (CMOS)</b>                         | 2.97   | —    | 2.25   | —    | 1.62   | —    | V    |
| Output Low (Logic "0")                             | —  | 0.33 | —      | 0.25 | —      | 0.18 |      |
| <b>Transition Time:Rise/Fall Time</b>              | 13.7 kHz ≤ Fo ≤ 93 kHz<br>0.3125 MHz ≤ Fo < 100 MHz<br>100 MHz ≤ Fo  |      |        |      |        |      |      |
|  | —  | 50   | —      | 50   | —      | 50   | nSec |
|  | —  | 5    | —      | 5    | —      | 5    |      |
|  | —  | 3    | —      | 3    | —      | 3    |      |
| <b>Start Time</b>                                  | —  | 5    | —      | 5    | —      | 5    | mSec |
| <b>Output Drive Capability (CL)</b>                | —  | 15   | —      | 15   | —      | 15   | pF   |
| <b>Tri-State (Input to Pin 1)</b>                  | Enable (High voltage or floating)<br>Disable (Low voltage or GND)  |      |        |      |        |      |      |
|  | 2.31   | —    | 1.75   | —    | 1.26   | —    | V    |
|  | —  | 0.99 | —      | 0.75 | —      | 0.54 |      |
| <b>Period Jitter(Pk-Pk)</b>                        | —  | 40   | —      | 40   | —      | 40   | pSec |
| <b>RMS Phase Jitter (Integrated 12 kHz~20 MHz)</b> | —  | 1    | —      | 1    | —      | 1    | pSec |
| <b>Standby Current</b>                             | —  | 10   | —      | 10   | —      | 10   | μA   |
| <b>Aging (@ 25°C 1st year)</b>                     | —  | ±3   | —      | ±3   | —      | ±3   | ppm  |
| <b>Storage Temp. Range</b>                         | -55  | 125  | -55    | 125  | -55    | 125  | °C   |

Standard frequencies are frequencies which the crystal has been designed and does not imply a stock position.

+ Transition times are measured between 10% and 90% of VDD, with an output load of 15pF. Output waveform CMOS only.

### FREQ. STABILITY vs. TEMP. RANGE

| Temp. (°C) | ppm | ±20 | ±25 | ±50 |
|------------|-----|-----|-----|-----|
| -10 ~ +60  | O   | O   | O   |     |
| -20 ~ +70  | △   | O   | O   |     |
| -40 ~ +85  | △   | O   | O   |     |

\* O: Available △:Conditional X: Not available

\* Inclusive of calibration @ 25 °C, operating temperature range, input voltage variation, load variation, aging (1st year), shock, and vibration

**Note: not all combination of options are available. Other specifications may be available upon request.**

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Specifications subject to change without notice.

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