

# OC-M Type

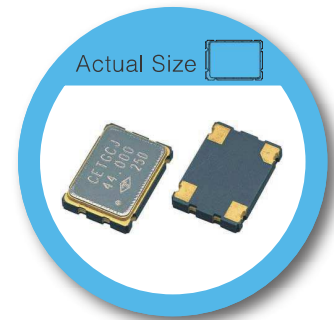
## 7.0 x 5.0 mm SMD Crystal Oscillator

### FEATURE

- Typical 7.0 x 5.0 x 1.3 mm ceramic SMD package.
- Output frequency up to 200 MHz
- Tri-state enable/disable

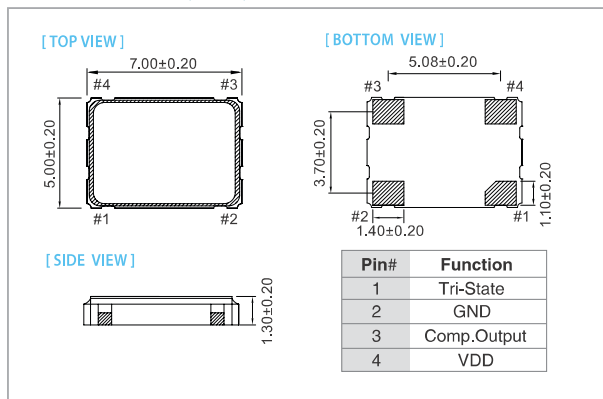
### TYPICAL APPLICATION

- xDSL, WLAN, Fiber/10G-Bit Ethernet
- Notebook, PDA
- PC main board, VGA card

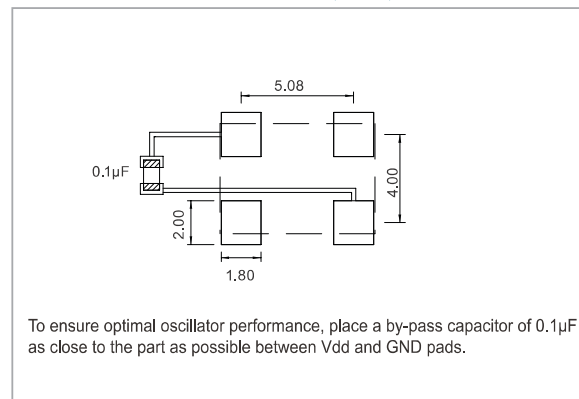


RoHS Compliant

### DIMENSION (mm)



### SOLDER PAD LAYOUT (mm)



### ELECTRICAL SPECIFICATION

| Parameter  | 3.3 V                                |                      | 2.5 V                |                      | 1.8 V                |                      | unit |
|--|--------------------------------------|----------------------|----------------------|----------------------|----------------------|----------------------|------|
|  | Min.                                 | Max.                 | Min.                 | Max.                 | Min.                 | Max.                 |      |
| <b>Supply Voltage Variation (V<sub>DD</sub>)</b>   | V <sub>DD</sub> -10%                 | V <sub>DD</sub> +10% | V <sub>DD</sub> -10% | V <sub>DD</sub> +10% | V <sub>DD</sub> -10% | V <sub>DD</sub> +10% | V    |
| <b>Frequency Range</b>                             | 2.048                                | 200                  | 2.048                | 166                  | 2.048                | 110                  | MHz  |
| <b>V<sub>DD</sub> Sensitivity (±10 %)</b>          | -2                                   | 2                    | -2                   | 2                    | -2                   | 2                    | ppm  |
| <b>Supply Current</b>                              | 2.048 MHz ≤ F <sub>o</sub> ≤ 110 MHz | —                    | 20                   | —                    | 15                   | —                    | mA   |
|  | 110 MHz < F <sub>o</sub> ≤ 166 MHz   | —                    | 25                   | —                    | 20                   | —                    |      |
|  | 166 MHz < F <sub>o</sub> ≤ 200 MHz   | —                    | 30                   | —                    | —                    | —                    |      |
| <b>Duty Cycle</b>                                  | 40                                   | 60                   | 40                   | 60                   | 40                   | 60                   | %    |
| <b>Output Level (CMOS)</b>                         | Output High (Logic "1")              | 2.97                 | —                    | 2.25                 | —                    | 1.62                 | V    |
|  | Output Low (Logic "0")               | —                    | 0.33                 | —                    | 0.25                 | —                    |      |
| <b>Transition Time: Rise/Fall Time<sup>+</sup></b> | 2.048 MHz ≤ F <sub>o</sub> ≤ 200 MHz |                      |                      |                      |                      |                      | nSec |
|  | —                                    | 5                    | —                    | 5                    | —                    | 5                    |      |
| <b>Start Time</b>                                  | —                                    | 5                    | —                    | 5                    | —                    | 5                    | mSec |
| <b>Tri-State (Input to Pin 1)</b>                  | Enable (High voltage or floating)    | 2.31                 | —                    | 1.75                 | —                    | 1.26                 | V    |
|  | Disable (Low voltage or GND)         | —                    | 0.99                 | —                    | 0.75                 | —                    |      |
| <b>Period Jitter (Pk-Pk)</b>                       | Specific Frequency"                  | —                    | 40                   | —                    | 40                   | —                    | pSec |
|  | Others                               | —                    | 200                  | —                    | 200                  | —                    |      |
| <b>Standby Current</b>                             | —                                    | 15                   | —                    | 15                   | —                    | 15                   | 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 V<sub>DD</sub>, with an output load of 15pF.

" Specific frequencies include 4.0, 6.0, 8.0, 12.0, 13.0, 16.0, 19.2, 20.0, 24.0, 26.0, 32.0, 38.4 and 40.0MHz

### FREQ. STABILITY vs. TEMP. RANGE

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

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

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

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

Specifications subject to change without notice.

Rev(11)05/2017  
[www.tai-tien.com](http://www.tai-tien.com)  
[sales@tai-tien.com.tw](mailto:sales@tai-tien.com.tw)