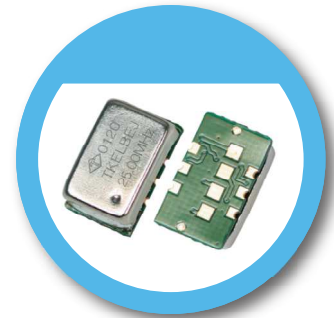


TK Type

14.3 x 8.7 mm Voltage Controlled Temperature Compensated Crystal Oscillator



RoHS Compliant

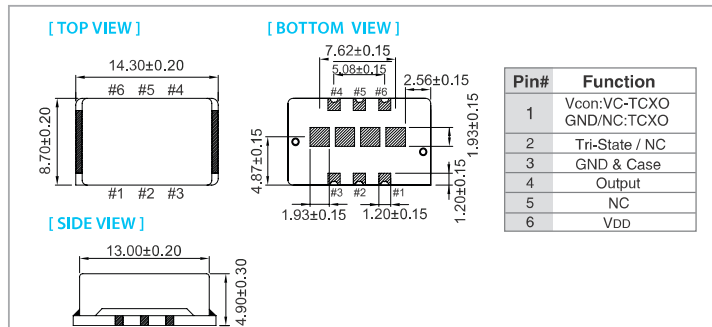
FEATURE

- Typical 14.3 x 8.7 x 4.9 mm.
- Metal cover, FR-4 PCB based.
- Output: TTL/CMOS or Clipped Sine Wave.
- Low current option (2mA for Clipped Sine Wave o/p).
- VCTCXO available.

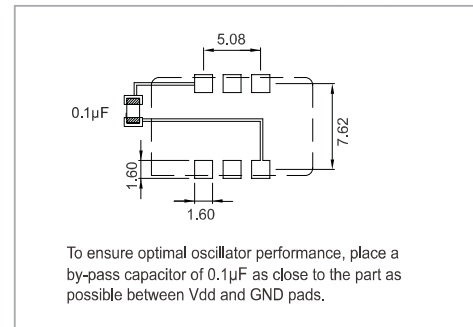
TYPICAL APPLICATION

- Large-Scale equipment
- WLAN/WiMAX
- Mobile Phone

DIMENSION (mm)



SOLDER PAD LAYOUT (mm)



ELECTRICAL SPECIFICATION

| Parameter | 5.0 V | | 3.3 / 3.0 V | | Unit | | | | | |
|--|---|--------|-------------------------|--------|--------|---|------|---|------|-----|
| | Min. | Max. | Min. | Max. | | | | | | |
| Supply Voltage Variation (VDD) | VDD-5% | VDD+5% | VDD-5% | VDD+5% | V | | | | | |
| Frequency Range | 5 | 40 | 5 | 40 | MHz | | | | | |
| Standard Frequency (for CMOS) | 5, 6.4, 8, 8.192, 10, 12.5, 12.8, 16, 16.384, 19.44, 20, 25 | | | | | | | | | |
| Standard Frequency (for Clipped Sine Wave) | 8.192, 10, 12.5, 12.8, 16, 16.384, 19.44, 20, 25 | | | | | | | | | |
| Frequency Tolerance* | - | ±2.0 | - | ±2.0 | ppm | | | | | |
| Frequency Stability | | | | | | | | | | |
| Vs Supply Voltage (±5%) change | | | | | | - | ±0.2 | - | ±0.2 | ppm |
| Vs Load (±10%) change | | | | | | - | ±0.2 | - | ±0.2 | |
| Vs Aging (@ 1st year) | | | | | | - | ±1.0 | - | ±1.0 | |
| Supply Current (CMOS output) | - | 6 | - | 6 | mA | | | | | |
| Supply Current (Clipped Sine Wave) | - | 3.5 | - | 3.5 | | | | | | |
| Output Level (CMOS) | Output High (Logic "1") | | Output High (Logic "1") | | V | | | | | |
| | 90%VDD | | 90%VDD | | | | | | | |
| | Output Low (Logic "0") | | Output Low (Logic "0") | | | | | | | |
| | Duty | | Duty | | % | | | | | |
| | 45 | | 55 | | | | | | | |
| Output Level (Clipped Sine Wave) | 0.8 | - | 0.8 | - | Vp-p | | | | | |
| Lead (CMOS) | 15pF | | 15pF | | | | | | | |
| Lead (Clipped Sine Wave) | 10 KΩ // 10pF | | 10 KΩ // 10pF | | | | | | | |
| Control Voltage Range (VCTCXO) | 0.5 | 2.5 | 0.5 | 2.5 | V | | | | | |
| Pulling Range (VCTCXO) | ±5.0 | - | ±5.0 | - | ppm | | | | | |
| Vc Input Impedance (VCTCXO) | 100 | - | 100 | - | kΩ | | | | | |
| Phase Noise @ 12.8 MHz | 100 Hz | | 100 Hz | | dBc/Hz | | | | | |
| | 1 kHz | | 1 kHz | | | | | | | |
| | 10 kHz | | 10 kHz | | | | | | | |
| Start time | - | 2 | - | 2 | mSec | | | | | |
| Tri-State (option) | Disable | | Disable | | V | | | | | |
| | Enable | | Enable | | | | | | | |
| Storage Temp. Range | -55 | 125 | -55 | 125 | °C | | | | | |

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

* Frequency at 25°C, 1 hour after reflow.

FREQ. STABILITY vs. TEMP. RANGE

| Temp. (°C) | ppm | ±0.05 | ±0.1 | ±0.14 | ±0.2 | ±0.28 | ±0.37 | ±0.5 |
|------------|-----|-------|------|-------|------|-------|-------|------|
| -10 ~ +70 | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| -20 ~ +70 | × | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| -40 ~ +85 | × | × | × | ○ | ○ | ○ | ○ | ○ |

* ○: Available △: Conditional X: Not available

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

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www.tai-tien.com

sales@tai-tien.com.tw