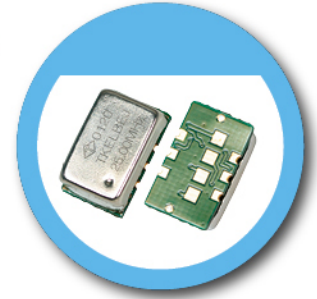


TK Type

14.3 x 8.7 mm Voltage Controlled Temperature Compensated Crystal Oscillator



FEATURE

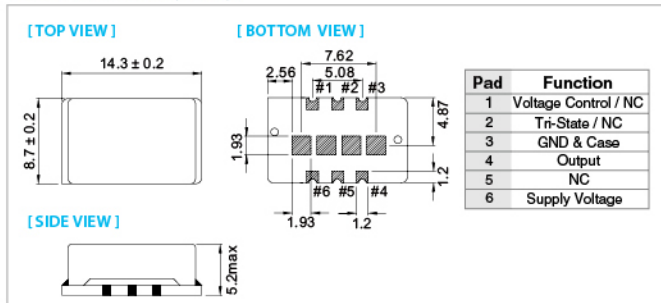
- Typical 14.3 x 8.7 x 4.9 mm.
- Metal cover, FR-4 PCB based.
- Output: TTL/CMOS or Clipped Sine Wave.
- Low current option (2mA for Clipped Sine Wave o/p).
- VCTCXO available.

TYPICAL APPLICATION

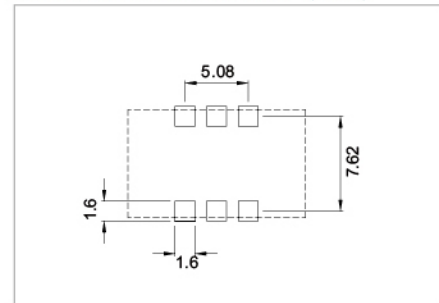
- Large-Scale equipment
- WLAN/WIMAX
- Mobile Phone

RoHS Compliant Standard

DIMENSION (mm)



SOLDER PAD LAYOUT (mm)



ELECTRICAL SPECIFICATION

| Parameter | 5.0 V | | 3.3 V | | Unit |
|---|---|--------|---------------|--------|--------|
| | Min. | Max. | Min. | Max. | |
| Supply Voltage Variation (VDD) 5% | 4.75 | 5.25 | 3.135 | 3.465 | V |
| Frequency Range | 5 | 40 | 5 | 40 | |
| Standard Frequency (for CMOS) | 5, 6.4, 8, 8.192, 10, 12.5, 12.8, 16, 16.384, 19.44, 25 | | | | MHz |
| Standard Frequency (for Clipped Sine) | 8.192, 10, 12.5, 12.8, 16, 16.384, 19.44, 25 | | | | |
| Frequency Tolerance* | - | ±2.0 | - | ±2.0 | ppm |
| Frequency Stability | | | | | |
| Vs Supply Voltage (±5%) change (for CMOS) | - | ±0.3 | - | ±0.3 | 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) | 90%VDD | - | 90%VDD | - | V |
| Output High (Logic "1") | - | 10%VDD | - | 10%VDD | |
| Output Low (Logic "0") | 45 | 55 | 45 | 55 | % |
| Duty | 0.8 | - | 0.8 | - | Vp-p |
| Output Level (Clipped Sine Wave) | 15pF | | 15pF | | |
| Lead (CMOS) | 10 KΩ // 10pF | | 10 KΩ // 10pF | | |
| Lead (Clipped Sine Wave) | 0.5 | | 0.5 | | V |
| Control Voltage Range (VCTCXO) | 2.5 | | 2.5 | | |
| Pulling Range (VCTCXO) | ±5.0 | | ±5.0 | | ppm |
| Vc Input Impedance (VCTCXO) | 100 | | 100 | | KΩ |
| Phase Noise @ 12.8 MHz | 100 Hz | -120 | -120 | | dBc/Hz |
| | 1 KHz | -140 | -140 | | |
| | 10 KHz | -148 | -148 | | |
| Start time | - | 2 | - | 2 | mSec |
| Tri-State (option) | Disable | - | - | 0.3VDD | V |
| | Enable | 0.7VDD | - | - | |
| 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.

Packing: Tape & Reel, 500 pcs per Reel.

FREQ. STABILITY vs. TEMP. RANGE

| Temp. (°C) | ppm | ±0.05 | ±0.1 | ±0.14 | ±0.2 | ±0.28 | ±0.37 | ±0.5 |
|------------|-----|-------|------|-------|------|-------|-------|------|
| 0 ~ +55 | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| -10 ~ +60 | ○ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| -20 ~ +70 | △ | ○ | ○ | ○ | ○ | ○ | ○ | ○ |
| -40 ~ +85 | × | × | × | △ | ○ | ○ | ○ | ○ |

* ○: Available △: Conditional X: Not available

Specifications subject to change without notice.