

## Crystal Oscillator

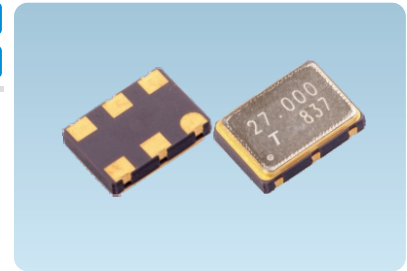


RoHS compliance

### TOT-4 TYPE

Typical 7.0 × 5.0 × 1.75 mm

Very Low phase jitter



#### Feature

- Typical 7.0 × 5.0 × 1.45 mm 6 pads ceramic SMD package.
- Tight symmetry (45 to 55%) available.
- Ultra low jitter performance: <100fs RMS from 12K~20MHz
- Complementary output.
- High-speed current steering logic (HCSL) output
- Packing: Tape & Reel, 1000 pcs per Reel.

#### Typical Application

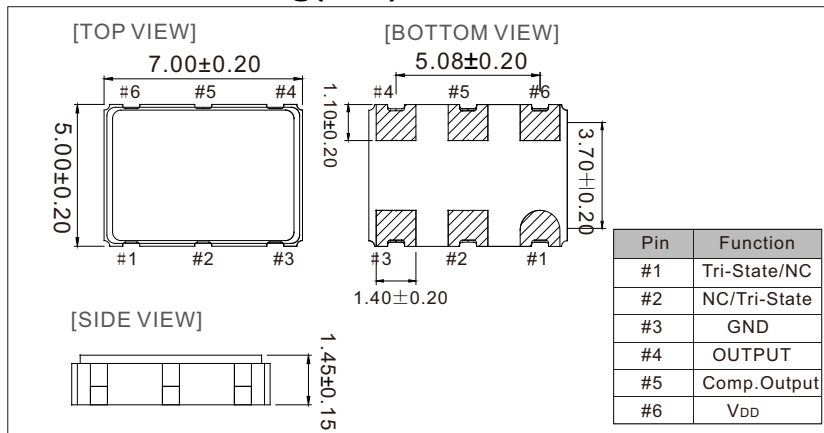
- 40G, 100G-BIT, Ethernet, MAN, SONET
- WLAN/WiMax, xDSL, Fiber Channel; Test instrumentation
- PCI-Express

#### Specifications

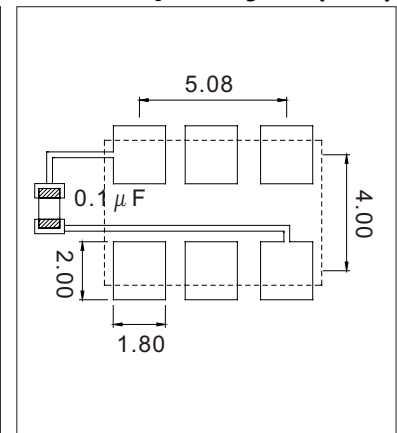
| Parameter                                  | HCSL                    |       |       |       | Unit |
|--|-------------------------|-------|-------|-------|------|
|  | 3.3V                    |       | 2.5V  |       |      |
|  | Min                     | Max   | Min   | Max   |      |
| Supply Voltage Variation(VDD)              | 3.135                   | 3.465 | 2.375 | 2.625 | V    |
| Frequency Range                            | 25                      | 175   | 25    | 175   | MHz  |
| Supply Current                             |                         |       |       |       | mA   |
| 70MHz ≤ Fo < 90MHz                         | -                       | -     | -     | -     |      |
| 90MHz ≤ Fo < 125MHz                        | -                       | 50    | -     | 50    |      |
| 125MHz ≤ Fo ≤ 170MHz                       | -                       | -     | -     | -     |      |
| Output Level(CMOS)                         |                         |       |       |       | V    |
| Output High(Logic"1")                      | -                       | 0.6   | -     | 0.58  |      |
| Output Low(Logic"0")                       | 0.15                    | -     | 0.15  | -     |      |
| Transition Time; Rise/Fall Time+           | -                       | 0.5   | -     | 0.5   | nSec |
| Start Time                                 | -                       | 3     | -     | 3     | mSec |
| Tri-State(Input to 2 Pin 1)                |                         |       |       |       | V    |
| Output Activ                               | 0.7V <sub>DD</sub> Min. |       |       |       |      |
| Output in High Impedance State             | 0.3V <sub>DD</sub> Max. |       |       |       |      |
| RMS Preiod Jitter (Integrated 12KHz~20MHz) | 0.5Max.                 |       |       | PSec  |      |
| Aging                                      | ±3Max.                  |       |       | ppm   |      |
| Storage Temp. Range                        | -55~125                 |       |       | °C    |      |

+Transition times are measures between 10% and 90% of VDD, With an output load of 15pF.

#### Outline Drawing(mm)



#### Solder pad layout(mm)



#### Frequency Stability Vs. Temperature Range

| Temp.(°C) | Ppm | ±25 | ±50 |
|-----------|-----|-----|-----|
| -10 ~ +60 | ✓   | ✓   | ✓   |
| -20 ~ +70 | ✓   | ✓   | ✓   |
| -40 ~ +85 | +   | ✓   | ✓   |

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

✓ Available + Conditional × Not Available

Q.C PASS

T1903A