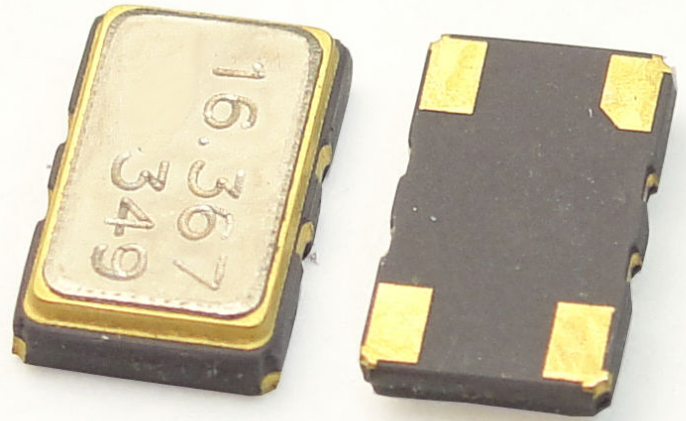


# TCXO 152 Series

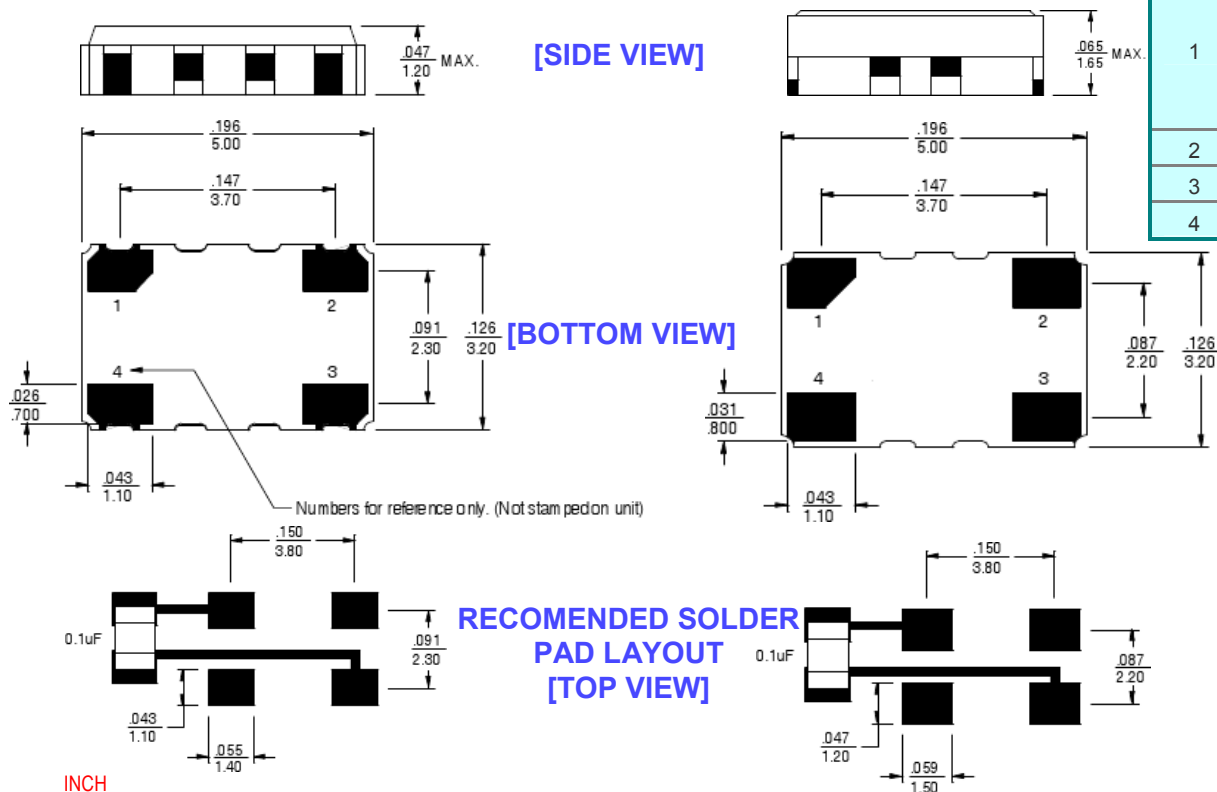
## Features:

- 5.0 x 3.2 x 1.2 ~ 1.65 mm
- High Precision for -40°C ~ +85°C, ±0.28 ppm
- Stratum 3 Performance Available
- CMOS or Clipped Sine Wave output
- Packing: Tape & Reel 1000/3000 pcs. per reel



| TCXO Series | Package (mm)<br>L: 5.0<br>W: 3.2<br>H: 1.2~1.65 | Supply Voltage (V)<br>3.3<br>5 | Pulling Range<br>Not Connected or >10 Year Adjustment | Freq. Stability (ppm)<br>±0.10 to ±1.00 | Temp. Range (°C)<br>0~+55<br>-10~+60<br>-20~+70<br>-30~+85<br>-40~+85 | Output Logic and Symmetry                |                   | Pin Out<br>Refer To OUTLINE DRAWING | Lead Free<br>RoHS Compliant Standard | Freq. (MHz)<br>10 to 40 |
|-------------|---|--------------------------------|---|---|---|--|-------------------|-------------------------------------|--------------------------------------|-------------------------|
|             |   |                                |   |   |   | Output<br>CMOS 15pF or Clipped Sine Wave | Symmetry<br>50±5% |                                     |                                      |                         |

## Outline Drawing



| PIN CONNECTIONS |  |
|-----------------|--|
| PIN             | FUNCTION   |
| 1               | 0 VOLTS AND CASE<br>or<br>RF ENABLE<br>or<br>NOT CONNECTED |
| 2               | 0 VOLTS AND CASE   |
| 3               | RF OUTPUT  |
| 4               | +VDC   |

INCH  
mm (Reference only)

# TCXO 152 Series

## Electrical Specification

| Parameter                                      | 3.3 V                      |                        | 5 V                    |                        | Unit       |
|--|----------------------------|------------------------|------------------------|------------------------|------------|
|  | Minimum                    | Maximum                | Minimum                | Maximum                |            |
| Supply Voltage Variation (V <sub>DD</sub> ) 5% | 3.135                      | 3.465                  | 4.750                  | 5.250                  | V          |
| Frequency Range                                | 10                         | 40                     | 10                     | 40                     | MHz        |
| Standard Frequency (for CMOS)                  | 10   12.8   19.2   20   26 |                        |                        |                        |            |
| Standard Frequency (for Clipped Sine)          | 10   12.8   19.2   20   26 |                        |                        |                        |            |
| Frequency Tolerance                            | -                          | ± 2.0                  | -                      | ± 2.0                  | ppm        |
| <b>Operating Temperature Ranges</b>            |                            |                        |                        |                        |            |
| ≥ ± 0.10 ppm                                   | 0                          | + 55                   | 0                      | + 55                   | °C         |
| ≥ ± 0.10 ppm                                   | - 10                       | + 60                   | - 10                   | + 60                   |            |
| ≥ ± 0.10 ppm                                   | - 20                       | + 70                   | - 20                   | + 70                   |            |
| ≥ ± 0.28 ppm                                   | - 40                       | + 85                   | - 40                   | + 85                   |            |
| <b>Frequency stability</b>                     |                            |                        |                        |                        |            |
| VS Supply Voltage ± 5% change (CMOS)           | -                          | ± 0.2                  | -                      | ± 0.2                  | ppm        |
| VS Load ± 10% change                           | -                          | ± 0.2                  | -                      | ± 0.2                  |            |
| VS Aging                                       | -                          | ± 1.0                  | -                      | ± 1.0                  | ppm / year |
| Supply Current (CMOS)                          | -                          | 6                      | -                      | 6                      | mA         |
| Supply Current (Clipped Sine)                  | -                          | 3.5                    | -                      | 3.5                    |            |
| <b>Output Level (CMOS)</b>                     |                            |                        |                        |                        |            |
| Output High (Logic "1")                        | 90% VDD                    | -                      | 90% VDD                | -                      | V          |
| Output Low (Logic "0")                         | -                          | 10% VDD                | -                      | 10% VDD                |            |
| Duty Cycle                                     | 45                         | 55                     | 45                     | 55                     | %          |
| Output Level (Clipped Sine)                    | 0.8                        | -                      | 0.8                    | -                      | Vp-p       |
| Load (CMOS)                                    | 15 pF                      |                        |                        |                        |            |
| Load (Clipped Sine)                            | 10 kΩ    10 pF             |                        |                        |                        |            |
| Control Voltage Range                          | 0.5                        | 2.5                    | 0.5                    | 2.5                    | V          |
| Pulling Range                                  | ± 5.0                      | -                      | ± 5.0                  | -                      | ppm        |
| VCO Input Impedance                            | 100                        | -                      | 100                    | -                      | kΩ         |
| <b>Phase Noise @12.8 MHz (Typical)</b>         |                            |                        |                        |                        |            |
| 100 Hz   | -125                       |                        |                        |                        | dBc/Hz     |
| 1 kHz  | -145                       |                        |                        |                        |            |
| 10 kHz   | -150                       |                        |                        |                        |            |
| Start Time                                     | -                          | 2                      | -                      | 2                      | mSec       |
| <b>R.F. Enable (Optional)</b>                  |                            |                        |                        |                        |            |
| Disable  | -                          | (V <sub>DD</sub> )*30% | -                      | (V <sub>DD</sub> )*30% | V          |
| Enable   | (V <sub>DD</sub> )*70%     | -                      | (V <sub>DD</sub> )*70% | -                      |            |
| Storage Temperature Range                      | -55                        | 125                    | -55                    | 125                    | °C         |