

# K1601T Series

## 14 DIP, 5.0 Volt, CMOS/TTL, TCXO



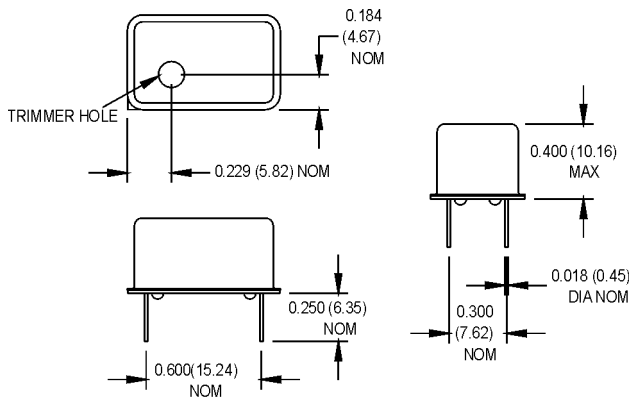
- Former **Champion** Product  
TECHNOLOGIES, INC.
- Phase-Locked Loops, SONET, Reference Signal, Signal Tracking, ATM

**Ordering Information**

**00.0000**  
**MHz**

**K1601T -R**

Product Series ————  
 RoHS Compliance ————  
 Blank: non-RoHS compliant part  
 -R: RoHS compliant part  
 Frequency (customer specified) ————



All dimensions in inches (mm).

### Pin Connections

| PIN | FUNCTION           |
|-----|--------------------|
| 1   | N/C                |
| 7   | Ground/Case Ground |
| 8   | Output             |
| 14  | +Vdd               |

| PARAMETER                  | Symbol                                      | Min.  | Typ. | Max. | Unit | Condition/Notes  |
|----------------------------|---|---|------|------|------|--|
| Frequency Range            | F   | 2   |      | 30   | MHz  |  |
| Frequency Stability        | $\Delta F/F$                                |   |      |      |      |  |
| <b>Overall</b>             |   | Inclusive of Calibration, Temperature, Voltage, Load, and Aging |      |      |      |  |
| 25°C Calibration           |   | -1.5  |      | +1.5 | ppm  |  |
| Over Operating Temperature |   | -1.0  |      | +1.0 | ppm  |  |
| Aging (10 Years)           |   | -2.0  |      | +2.0 | ppm  |  |
| Frequency Adjustment       |   | -5.0  |      | +5.0 | ppm  |  |
| Operating Temperature      | T <sub>A</sub>                              | 0   |      | +55  | °C   |  |
| Storage Temperature        | T <sub>S</sub>                              | -40   |      | +85  | °C   |  |
| Input Voltage              | V <sub>dd</sub>                             | 4.75  | 5.0  | 5.25 | V    |  |
| Input Current              | I <sub>dd</sub>                             |   |      | <20  | mA   |  |
| Symmetry (Duty Cycle)      |   | 45  |      | 55   | %    | <14 MHz  |
|                            |   | 50  |      | 60   | %    | ≥14 MHz  |
| Rise Time                  | T <sub>r</sub>                              |   | 3.5  | 9.0  | ns   |  |
| Fall Time                  | T <sub>f</sub>                              |   | 2.0  | 8.0  | ns   |  |
| Logic "1" Level            | V <sub>oh</sub>                             | 4.5   |      |      | V    |  |
| Logic "0" Level            | V <sub>ol</sub>                             |   |      | 0.5  | V    |  |
| Start up Time              |   |   |      | <20  | ms   |  |
| Temperature Cycle          | MIL-STD-883, Method 1010, Condition B       |   |      |      |      | -55°C to +125°C; Air-to-Air<br>100 cycles; 10 min. dwell |
| Mechanical Shock           | MIL-STD-883, Method 2002, Condition B       |   |      |      |      | 1500 g's   |
| Vibration                  | MIL-STD-883, method 2007, Condition B       |   |      |      |      | 20-2000 Hz; 0.06 inch; 15 g's; 3 planes                  |
| Humidity Steady State      | MIL-STD-202, Method 103                     |   |      |      |      | 40°C, 90%-95% R.H.; 56 days                              |
| Thermal Shock              | MIL-STD-883, Method 1011.7, Condition B     |   |      |      |      | 100°C to 0°C; Water-to-Water; 15 cycles                  |
| Electrostatic Discharge    | MIL-STD-883, Method 3015, Class II          |   |      |      |      | 2 KV to 4 KV Threshold                                   |
| Solderability              | MIL-STD-883, Method 2022.2                  |   |      |      |      | Solder dip; Meniscograph Criteria                        |
| Hermeticity                | MIL-STD-883, Method 1014.8, Condition A1    |   |      |      |      | Mass pectro. 2 x 10 <sup>-8</sup> atoms. CC/sec He       |
| Lead Integrity             | MIL-STD-883, Method 2004.5, Condition A, B1 |   |      |      |      | Lead tension & bend stress                               |
| Marking Permanence         | MIL-STD-883, Method 2015.8                  |   |      |      |      | Resistance to solvents                                   |
| Life Test                  | MIL-STD-883, Method 1005.6                  |   |      |      |      | 125°C, powered, 1000 hours minimum                       |

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