

# K1601T Series

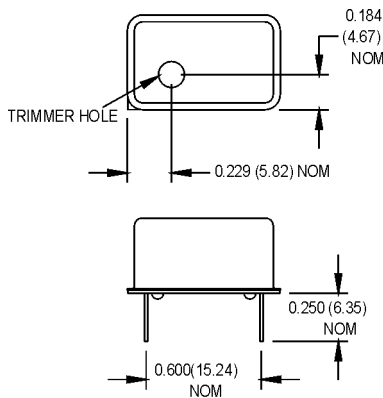
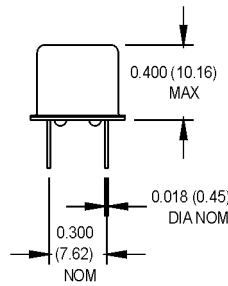
## 14 DIP, 5.0 Volt, CMOS/TTL, TCXO



- Former **Champion** Technologies, Inc. Product
- Phase-Locked Loops, SONENT, Reference Signal, Signal Tracking, ATM

### Ordering Information

|                                |                         |           |                |
|--------------------------------|-------------------------|-----------|----------------|
|                                | <b>K1601T</b>           | <b>-R</b> | <b>00.0000</b> |
| 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               |

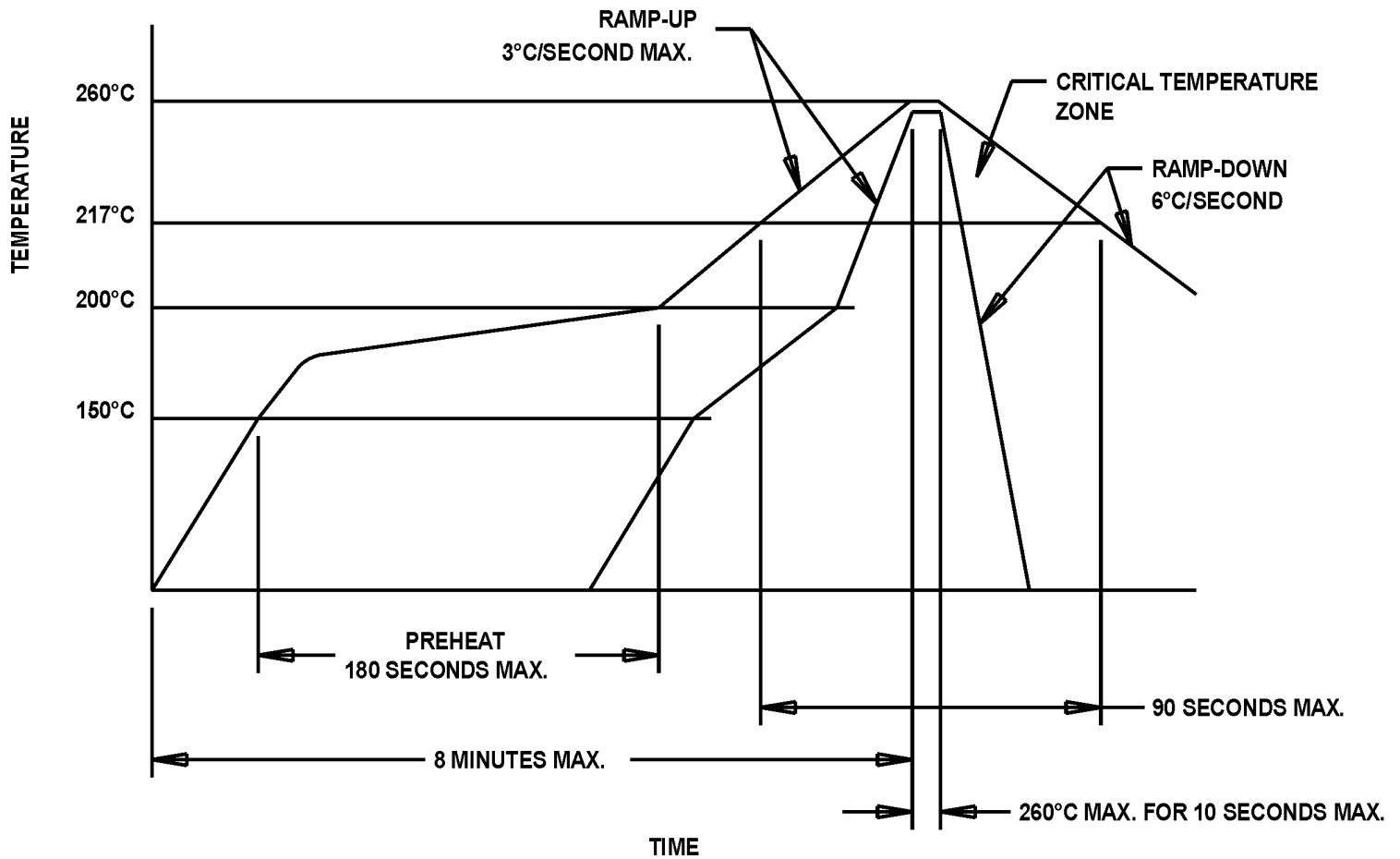
|                             | PARAMETER                  | Symbol                                      | Min.                                                            | Typ. | Max. | Unit | Condition/Notes                                       |
|-----------------------------|----------------------------|---------------------------------------------|-----------------------------------------------------------------|------|------|------|-------------------------------------------------------|
| Electrical Specification    | Frequency Range            | F                                           | 2                                                               |      | 30   | MHz  |                                                       |
|                             | Frequency Stability        | $\Delta F/F$                                |                                                                 |      |      |      |                                                       |
|                             | Overall                    |                                             | 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   |                                                       |
| Environmental Specification | 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 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                                |
| Environmental Specification | 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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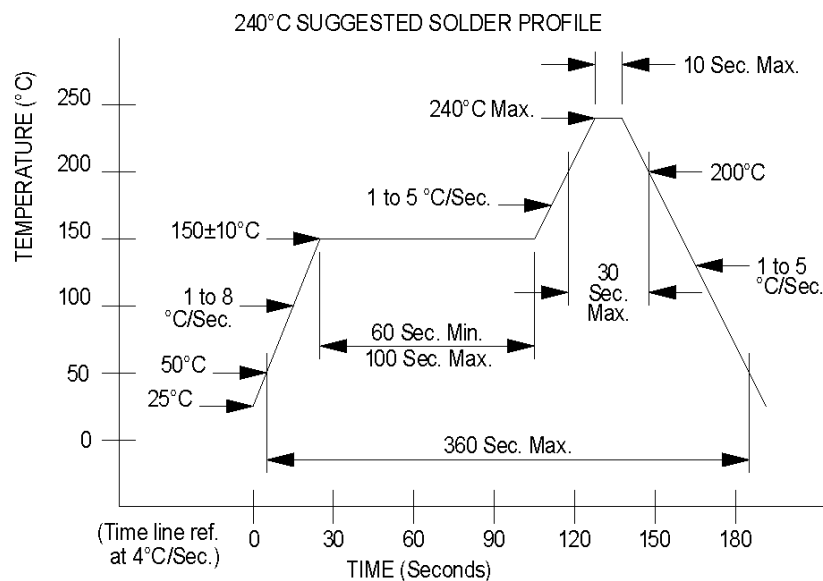
Revision: 03-09-07

## MtronPTI Lead Free Solder Profile



## MtronPTI Non-RoHS Profile

240°C  
All the remaining surface mount,  
both crystal and oscillator.



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