



SPECIFICATION FOR HCMOS/TTL COMPATIBLE SMT OSCILLATOR MtronPTI P/N M2002T165

Electrical Specifications:

| Parameter | Symbol | Min. | Typ. | Max. | Units | Conditions |
|------------------------|--------------------------------|---|-----------|---------------------|--------|---|
| Frequency of Operation | F _o | | 25.010583 | | MHz | |
| Frequency Stability | ΔF/F | -50 | | +50 | ppm | Stability Includes: (initial frequency, deviation over the operating temperature range, shift due to shock, vibration, 10 year aging, load and supply variations) |
| Operating Temperature | T _A | -55 | | +105 | °C | |
| Storage Temperature | T _S | -65 | | +125 | °C | |
| Aging | | -3 | | +3 | ppm | 1 st year |
| | | -1 | | +1 | ppm | Thereafter (per year) |
| Operating Voltage | V _{DD} | 3.135 | 3.3 | 3.465 | V | |
| Operating Current | I _{DD} | | | 20 | mA | |
| Output Type | | HCMOS/TTL Compatible | | | | |
| Output Load | | | | 15/2 | pF/TTL | |
| Symmetry (duty cycle) | T _{DC} | 45 | | 55 | % | Ref to ½ V _{DD} |
| Logic "1" Level | V _{OH} | 90% V _{DD} | | | V | HCMOS load |
| | V _{OH} | V _{DD} - 0.5 | | | V | TTL Load |
| Logic "0" Level | V _{OL} | | | 10% V _{DD} | V | HCMOS load |
| | V _{OL} | | | 0.5 V | | TTL Load |
| Rise/Fall Time | T _R /T _F | | | 6 | ns | From 10% to 90% V _{DD} |
| Random Jitter | R _J | | 4 | 10 | ps RMS | 1-Sigma |
| Start-up Time | T _{SU} | | | 10 | ms | |
| Tri-state Function | | Logic "1" enables output. Logic "0" disables output to a Hi-Z. | | | | Pad1 |

Environmental & Mechanical Requirements:

| | |
|---------------------------|---|
| Mechanical Shock | Per MIL-STD-202, Method 213, Condition C (100 g's, 6 ms duration, ½ sinewave) |
| Vibration | Per MIL-STD-202, Method 201 & 204 (10 g's from 10-2000 Hz) |
| Thermal Cycle | Per MIL-STD-883, Method 1010, B (-55°C to 125°C, 15 min. dwell, 10 cycles) |
| Fine Leak Test | Per MIL-STD-202, Method 112 (1 x 10 ⁻⁸ atm cc/s of Helium) |
| Gross Leak Test | Per MIL-STD-202, Method 112 (30 second immersion) |
| Solderability | Per EIAJ-STD-002 |
| Max. Soldering Conditions | See solder profile, Figure 1 |
| Package Type | 4-pad 5 X 7 mm leadless ceramic. Sn-Pb solder tinned pads. |

Special Requirements:

1. All units 100% electrical test over -55°C to +105°C and at +25°C.
2. Domestic USA build only.

SPECIFICATION FOR HCMOS/TTL COMPATIBLE SMT OSCILLATOR MtronPTI P/N M2002T165

Dimensions, Marking, and Pin Out Information:

| Pad | Function |
|-----|------------------|
| 1 | Tri-state |
| 2 | Ground |
| 3 | Output |
| 4 | +V _{DD} |

| Part Marking | |
|--------------|-----------|
| Line 1 | M2002T165 |
| Line 2 | 25M0105 |
| Line 3 | M yyww |

| Legend | |
|--------|-----------|
| yy | Year |
| ww | Work week |

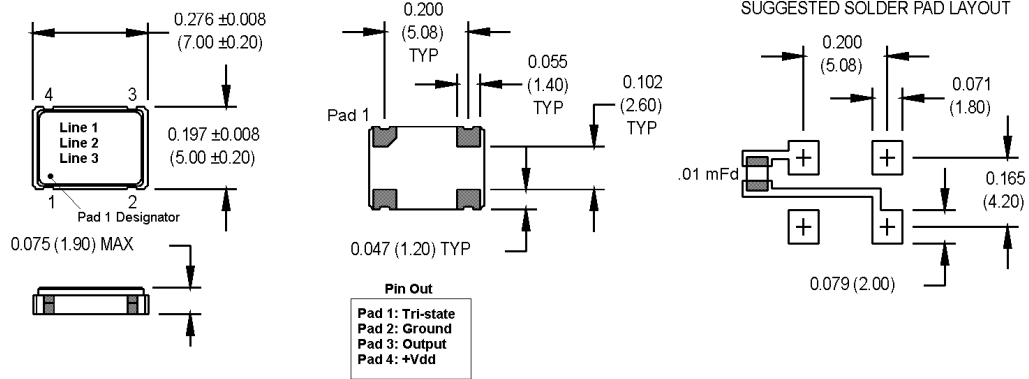
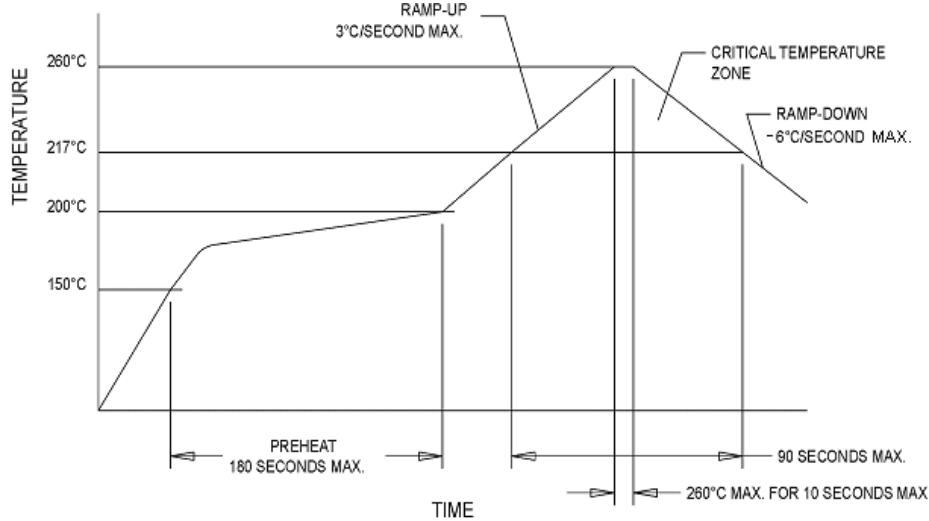


Figure 1



DATA SHEET REVISION TABLE:

| Date | Rev. | Author | Details of Revision |
|---------|------|--------|--|
| 2/12/13 | 0 | MM | Original release (supplants M2002S894) |