## Specification for an SMT Oscillator MtronPTI P/N M6300S005

## I. General \& Electrical Requirements:

1. Frequency of Operation: 212.500000 MHz
2. Frequency Stability: $\pm 20 \mathrm{ppm}$ maximum
(Inclusive of initial calibration, operating temperature, supply voltage, and 1 year aging at $+50^{\circ} \mathrm{C}$ ).
3. Operating Temperature Range: $-55^{\circ} \mathrm{C}$ to $+85^{\circ} \mathrm{C}$
4. Operating Voltage $\left(\mathrm{V}_{\mathrm{dd}}\right):+3.3 \mathrm{~V} \pm 5 \%$
5. Operating Current (ldd): 125 mA max.
6. Output Logic: Complementary LVPECL Compatible
7. Output Logic Levels: $\mathrm{V}_{\mathrm{oL}}=\mathrm{V}_{\mathrm{dd}}-1.63 \mathrm{~V}$ max. $\mathrm{V}_{\mathrm{OH}}=\mathrm{V}_{\mathrm{dd}}-1.02 \mathrm{~V}$ min.
8. Symmetry: $45 / 55 \%$ ref. to $50 \%$ of waveform.
9. Rise/Fall Time: $0.55 n s e c$ maximum. ref. at $20 \%$ and $80 \%$.
10. Output Load: $50 \Omega$ to $\mathrm{V}_{\text {dd }}-2 \mathrm{~V}$.
11. Enable/Disable (Pad 1): Logic "1" enables outputs. Logic "0" disables outputs.
12. Start-Up Time (for oscillation): 10 msec typical
13. Phase Jitter: 1 psec RMS maximum ( 12 kHz to 20 MHz )
14. Random Jitter: 3psec typical, 3.5psec maximum
15. SSB Phase Noise (Typical, Under Static Conditions): -70dBc/Hz @ 10Hz offset, -90dBc/Hz @ 100Hz offset, $-113 \mathrm{dBc} / \mathrm{Hz}$ @ 1kHz Offset, -125dBc/Hz @ 10kHz offset

## II. Environmental/Mechanical Requirements:

1. Shock: Per MIL-STD-202, Method 213, Condition C.
2. Vibration: Per MIL-STD-202, Methods 201 \& 204.
3. Hermeticity: $1 \times 10^{-8} \mathrm{~atm} \mathrm{cc} / \mathrm{sec} \mathrm{min}$.
4. Storage Temperature: $-55^{\circ} \mathrm{C}$ to $+125^{\circ} \mathrm{C}$.
5. Maximum Soldering Conditions: See Figure 1.
6. Package: 6- pad leadless ceramic. RoHS compliant.

## III. Dimensions:




Figure 1


## IV. Data Sheet Revision Table:

| Date | Rev. | Author | Details of Revision |
| :---: | :---: | :---: | :--- |
| $1 / 27 / 09$ | 0 | WNJ | Original release. |
| $2 / 3 / 09$ | A | WNJ | Changed Operating Temperature to $-55^{\circ} \mathrm{C}$ to $+85^{\circ} \mathrm{C}$ from $-55^{\circ} \mathrm{C}$ to $+125^{\circ} \mathrm{C}$. |
| $8 / 17 / 10$ | B | WNJ | Updated Mechanical Drawing. Added termination (pad) material information. |
| $1 / 4 / 12$ | C | BRM | Added specifications for Random Jitter and Start-up Time |

