MtronPTI ...when timing matters

1703 E. Highway 50 Yankton, SD 57078 USA
Phone: 800-762-8800 or 605-665-9321 Fax: 605-665-1709
Website: www.mtronpti.com

# SPECIFICATION FOR RoHS 6 COMPLIANT LVDS OUTPUT SMT VCTCXO
# MtronPTI P/N M6300S059

## Electrical Specifications:

| Parameter | Symbol | Min. | Typ. | Max. | Units | Conditions |
|---|---|---|---|---|---|---|
| Frequency of Operation | $F_O$ | | 100.000000 | | MHz | |
| **Frequency Stability** | | | | | | |
| Frequency Tolerance | | -1.0 | | +1.0 | ppm | @ +25°C |
| Frequency Stability | ΔF/F | -1.0 | | +1.0 | ppm | Over operating temperature ($F_{Max} – F_{Min}$)/2 |
| Aging | | -3 | | +3 | ppm | 1st year |
| | | -1 | | +1 | ppm | Per year thereafter |
| **Output** | | | | | | |
| Output Type | | LVDS | | | | |
| Output Load | | 100 Ω Differential | | | | |
| Symmetry (duty cycle) | $T_{DC}$ | 45 | 50 | 55 | % | @ 50% of waveform |
| Differential Voltage | $V_{DIFF}$ | 250 | 350 | 450 | $V_{pk-pk}$ | LVDS load |
| Common Mode Voltage | $V_{CM}$ | | 1.2 | | V | LVDS load |
| Rise/Fall Time | $T_R/T_F$ | | | 0.35 | ns | From 20% to 80% $V_{DD}$ |
| Start-up Time | $T_{SU}$ | | | 10 | mS | |
| **Frequency Adjustment** | | | | | | |
| Control Voltage Range | | 0.3 | | 3.0 | V | Pad 1 |
| Tuning Range | | ± 5 | | | ppm | Pad 1 |
| | | | | | | |
| **SSB Phase Noise** | | | | | | |
| Phase Noise | | | -65 | | dBc/Hz | @ 10 Hz |
| | | | -97 | | dBc/Hz | @ 100 Hz |
| | | | -121 | | dBc/Hz | @ 1 kHz |
| | | | -129 | | dBc/Hz | @ 10 kHz |
| | | | -135 | | dBc/Hz | @ 100 kHz |
| **Supply** | | | | | | |
| Operating Voltage | $V_{DD}$ | 3.135 | 3.3 | 3.465 | V | |
| Operating Current | $I_{DD}$ | | | 100 | mA | |
| **Temperature Range** | | | | | | |
| Operating Temperature | $T_A$ | -40 | | +85 | °C | |
| Storage Temperature | $T_S$ | -55 | | +125 | °C | |

## Environmental Conditions:

| | |
|---|---|
| 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 Shock | Per MIL-STD-883, Method 1011, Condition A |
| Thermal Cycle | Per MIL-STD-883, Method 1010, Condition B |
| Hermeticity | Per MIL-STD-202, Method 112 (1 x $10^{-8}$ atm cc/s of helium) |
| Solderability | Per EIAJ-STD-002 |
| Max. Soldering Conditions | See Figure 1. |
| Package Type | 6-pad 5.0 X 7.0 X 1.9 mm leadless ceramic. RoHS compliant. |

1703 E. Highway 50 Yankton, SD 57078 USA
Phone: 800-762-8800 or 605-665-9321 Fax: 605-665-1709
Website: www.mtronpti.com

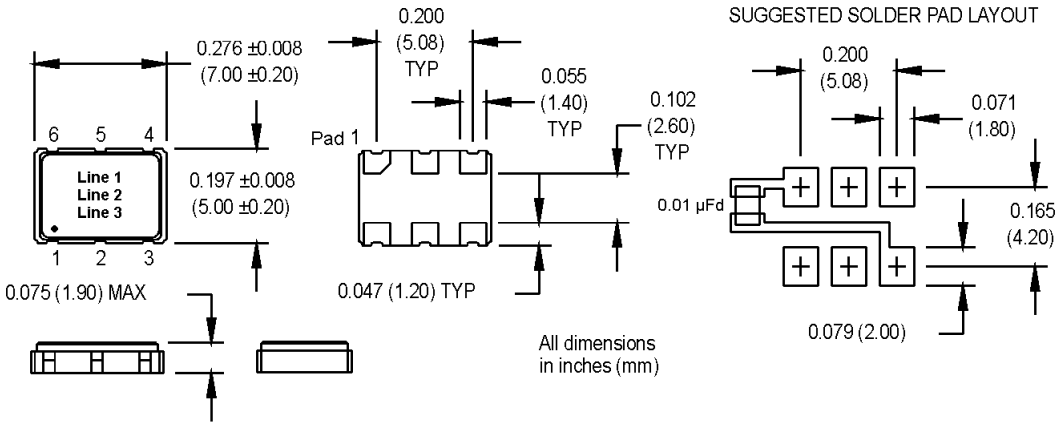
# SPECIFICATION FOR RoHS 6 COMPLIANT LVDS OUTPUT SMT VCTCXO
# MtronPTI P/N M6300S059

## Mechanical, Marking, and Pin Out Information:

| Pin | Function |
|---|---|
| 1 | Control Voltage |
| 2 | N/C |
| 3 | Ground |
| 4 | Output |
| 5 | Complementary Output |
| 6 | $+V_{CC}$ |

| Part Marking | |
|---|---|
| Line 1 | M6300S059 |
| Line 2 | 100M000 |
| Line 3 | MPTI yyww |

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



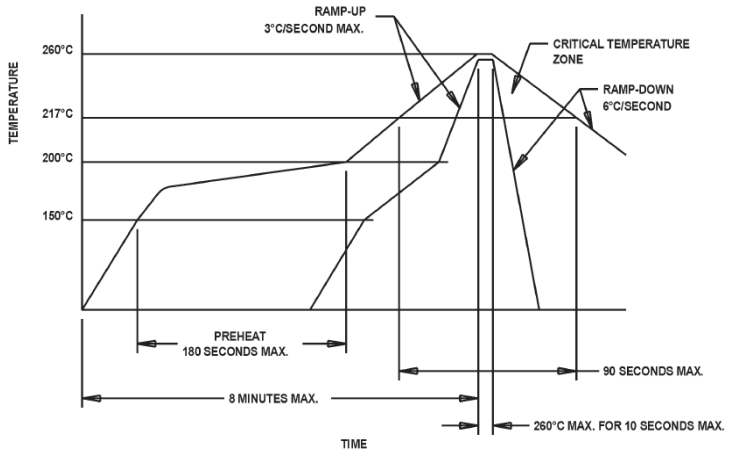




Figure 1

## Datasheet Revision Table:

| Date | Rev. | Author | Details of Revision |
|---|---|---|---|
| 10/16/12 | 0 | MM | Original release. |