2525 Shader Road Orlando, FL 32804 USA
Phone: 407-298-2000 Fax: 407-293-2979
Website: www.mtronpti.com AMEX:LGL

# Specification for a Sinewave Output Thru-Hole OCXO
# MtronPTI P/N: XO5085-013R

## Electrical Specifications:

| Parameter | Symbol | Min. | Typ. | Max. | Units | Conditions |
|---|---|---|---|---|---|---|
| Nominal Frequency | $F_O$ | | 100.000000 | | MHz | |
| **Frequency Stabilities** | | | | | | |
| vs. Temperature | $\Delta F_T/F$ | -300 | | +300 | ppb | Peak-Peak over the operating temperature range |
| vs. Supply Voltage | $\Delta F_{Vs}/F$ | -30 | | +30 | ppb | 5% change in $V_S$ |
| 10-Years Aging | | -1 | | +1 | ppm | After 30-days Power On |
| Short Term Stability | | | $1 \times 10^{-10}$ | | | Allan Deviation, Tau = 1sec |
| **RF Output** | | | | | | |
| Output Type | | | Sinewave | | | |
| Output Level | | | +9 | | dBm | |
| Output Load | | | 50 | | Ω | ±10% |
| **Frequency Adjustment** | | | | | | |
| Adjustment Method | | | External Voltage | | | |
| Adjustment Voltage | $V_{TUNE}$ | 0 | | +10 | $V_{DC}$ | |
| Adjustment Range | | | Sufficient for 10-years aging adjustment | | | |
| Input Impedance | | 1 | | | MΩ | |
| Modulation Bandwidth | | 1 | | $_s$ | kHz | 3dB |
| **Additional Parameters** | | | | | | |
| Phase Noise | | | | -95 | dBc/Hz | 10Hz Offset |
| | | | | -127 | dBc/Hz | 100Hz Offset |
| | | | | -155 | dBc/Hz | 1kHz Offset |
| | | | | -163 | dBc/Hz | 10kHz Offset |
| | | | | -165 | dBc/Hz | 100kHz Offset |
| Harmonics | | | | -25 | dBc | |
| Spurious | | | | -75 | dBc | |
| G-sensitivity | | | 1 | | ppb/g | |
| Warm-up Time | | | | 5 | minutes | @ 25°C, relative to 2-hrs after turn-on following 24-hrs off. To within ±0.1ppm of final frequency. |
| **Temperature, Supply Voltage & Power Consumption** | | | | | | |
| Operating Temperature | $T_A$ | -40 | | +80 | °C | |
| Storage Temperature | $T_S$ | -55 | | +85 | °C | |
| Operating Voltage | $V_S$ | +11.4 | +12.0 | +12.6 | $V_{DC}$ | |
| Power Consumption | | | | 1.5 | Watts | Steady state @ 25°C, In Still Air |
| | | | | 4.5 | Watts | @ Warm-up |


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## Environmental Conditions:

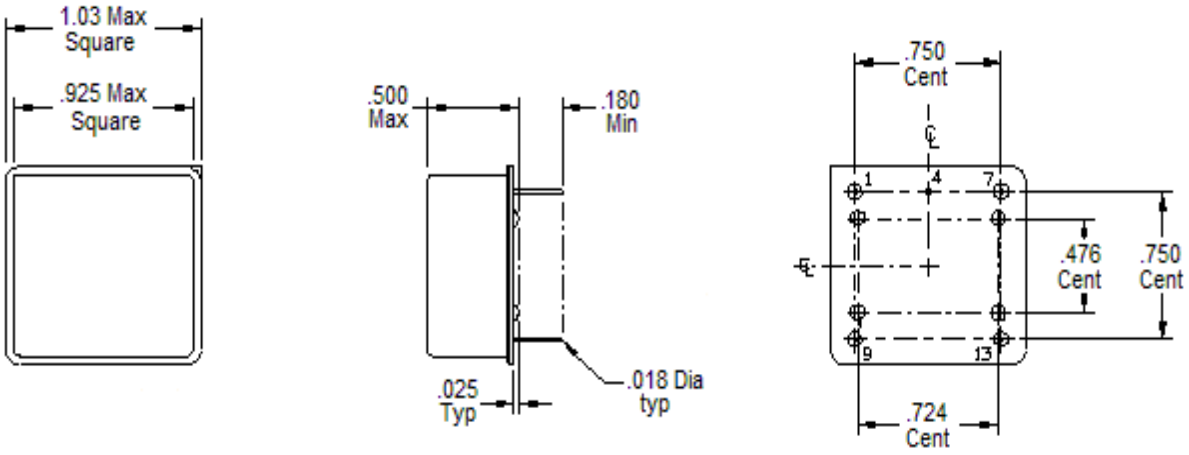
| | |
|---|---|
| MSL | Level 1 |
| Seal | Hermetic |
| RoHS | Full RoHS Compliance |

## Mechanical, Marking and Layout Information:

| Part Marking | |
|---|---|
| Line 1 | MtronPTI |
| Line 2 | XO5085-013R |
| Line 3 | 100.0000MHz |
| Line 4 | Serial Number |
| Line 5 | Date Code |

| Legend | |
|---|---|
| yy | Year |
| ww | Work Week |

| Pin | Function |
|---|---|
| 1 | RF Output |
| 4 | Case Ground |
| 7 | $V_{TUNE}$ |
| 13 | N/C |
| 19 | Supply Voltage |




## Data Sheet Revision Table:

| Date | Rev. | Orig. | Details of Revision |
|---|---|---|---|
| 04/26/13 | A | BRM | Updated the SSB Phase Noise specifications to reflect standard option B maximums. |
| 02/14/13 | 1 | BRM | Modified the $V_{TUNE}$ Input port Impedance to 1MΩ minimum at the customer's request. Updated STS specification for a Tau = 1sec, Warm-up Time to 5-minutes maximum and assigned a model number. |
| 10/02/12 | 0 | BRM | Original Draft. |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