**OUTPUT**

**Frequency**

650 MHz

**Level**

+13 dBm ±2 dB into 50 ohms

**STABILITY**

**Aging**

$1 \times 10^{-6}$ first year

after 30 days operating, typical

$5 \times 10^{-7}$ second year, typical

$3 \times 10^{-7}$ per year thereafter, typical

**Phase Noise L(f), dBc/Hz**

| | |
|---|---|
| 100 Hz | -113 dBc/Hz |
| 1 KHz | -138 dBc/Hz |
| 10 KHz | -158 dBc/Hz |
| 100 KHz | -162 dBc/Hz |

**Temperature Stability**

$\pm 5 \times 10^{-7}$, 0° to +50°C (Ref +25°C)

**Harmonics**

≤ -25 dBc

**Sub-Harmonics**

≤ -60 dBc

**Spurious**

≤ -80 dBc, excluding power supply line related spurs

**MECHANICAL**

**Dimensions**

4.21 x 4 x 1”

**Connectors**

SMA(f) and solder pins

**Packaging**

Nickel-plated machined aluminum housing – G2

**Mounting**

Threaded inserts on base, #2-56, 6 places

**POWER REQUIREMENTS**

**Warm-Up Power**

≤ 16 Watts for 5 minutes

**Total Power**

≤ 12 Watts at +25°C

**Supply Voltage**

+15 VDC ±5%

**ADJUSTMENT**

**Mechanical Tuning**

$\pm 4 \times 10^{-6}$

**Electrical Tuning**

$\pm 5 \times 10^{-7}$, ±5 VDC

Negative slope

**CRYSTAL**

**Type**

65 MHz SC-cut (x10)

**Label**

Use conventional label with the following information:

501-31646 (Current Rev.)

650 MHz GMXO-FR

+15 VDC

Serial # - Date Code

(Mark connectors with function)

**Test Data**

Output Level

Phase Noise

Temperature Stability

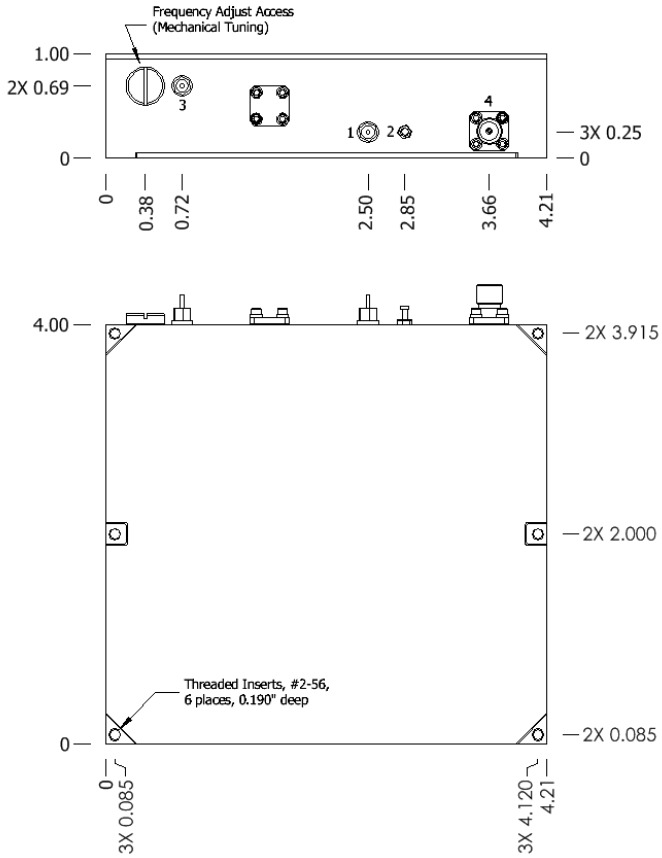
Harmonics, Subs, Spurious

Power – Warm-up and Total

Tuning – MT and ET

| REV | DATE | REVISION RECORD | DWN | AUTH |
|---|---|---|---|---|
| - | 04-23-18 | Initial Release | CB | |
| | | | | |
| | | | | |
| | | | | |

| G2 Connections | |
|---|---|
| Connector | Function |
| 1 | Supply Voltage |
| 2 | Ground, Case |
| 3 | Electrical Tuning |
| 4 | RF Output |




**Wenzel Associates, Inc.**
Austin, Texas

Title:

**650 MHz Golden Multiplied Crystal Oscillator ( Golden MXO-FR )**

| P/N: | Rev: | Date: | Drawn: | Ref: |
|---|---|---|---|---|
| 501-31646 | - | 04-23-18 | | |

| Tolerances: (except as noted) Dimensions are in inches | 0.XX Dec: | 0.XXX Dec: | FSCM: | Page 1 of 1 |
|---|---|---|---|---|
| | ±0.030” | ±0.010” | 62821 | |