

REV	DATE	REVISION RECORD	DWN	AUTH
-	01-26-12	Initial Release	PAC	
A	02-07-14	Close-In noise	Liz	

**INPUT**

**Frequency**

10 MHz,  $\pm 2 \times 10^{-7}$

**Level**

+7 dBm  $\pm 5$  dB into 50 Ohms

**OUTPUT**

**Frequency**

10 MHz

**Level**

+13 dBm  $\pm 2$  dB into 50 ohms

**STABILITY**

**Output Phase Noise L(f)**

**Free-Running**

- 10 Hz -138 dBc/Hz
- 100 Hz -160 dBc/Hz
- 1 kHz -172 dBc/Hz
- 10 kHz -174 dBc/Hz

**Aging**

$\pm 1 \times 10^{-7}$  per year after 30 days operating, typical

**Temperature Stability**

$\pm 1 \times 10^{-8}$  free-running from 0 to +50°C, (Ref. +25°C)

**Harmonics**

-30 dBc

**Sub-Harmonics**

-50 dBc

**PLL Divider Products**

-50 dBc

**Non-Harmonic Spurious**

-70 dBc

**Phase Lock Alarm**

TTL

Locked: +3.5 VDC to +5.2 VDC (Hi)

Out-of-Lock: +0.8 VDC max (Lo)

**Phase Lock Voltage Monitor**

Voltage monitor pin supplied

**MECHANICAL**

**Dimensions**

2.5 x 3.5 x 0.8"

**Connectors**

SMA's and solder pins on side  
Feed-thru terminals for lock alarm, supply and phase lock voltage monitor

**Packaging**

Nickel-plated machined aluminum housing

**Mounting**

Shock mount patterns on sides  
Through holes, 4 places  
Threaded inserts on base, 4 places

**POWER REQUIREMENTS**

**Supply Voltage**

+15 VDC  $\pm 5\%$

**Warm-Up Power**

8 Watts at start-up for 5 minutes at +25°C

**Total Power**

5 Watts at steady state +25°C

**ADJUSTMENT**

**Loop BW**

Target Bandwidth: < 1 Hz  
Type 2 Loop, < 5 minutes  
to  $\pm 1 \times 10^{-9}$  of input

**CRYSTAL**

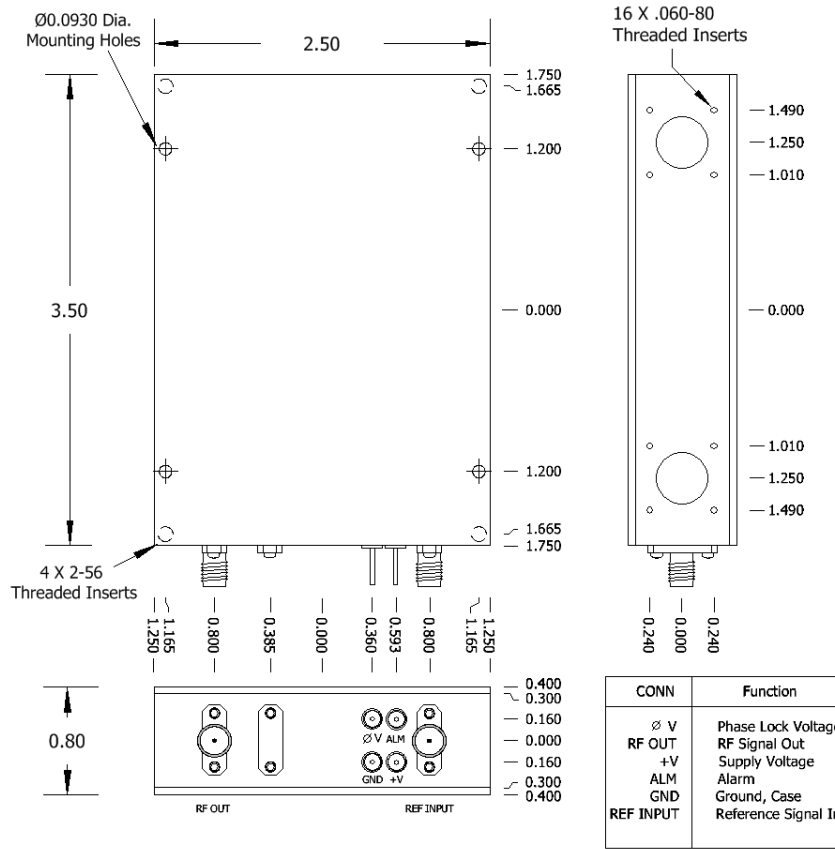
**Type**

10 MHz SC-cut

**OTHER**

**Test Data**

Output Level  
Phase Noise (free-running)  
Temperature Stability (free-running)  
Harmonics, PLL Products, Spurious



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

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Title: **10 MHz-SC ULN Phase Lock Crystal Oscillator**

P/N: <b>501-25524</b>	Rev: <b>A</b>	Date: <b>02-07-14</b>	Drawn:	Ref: 501-10136B
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Tolerances: (except as noted) Dimensions are in inches	0.XX Dec: <b>±0.030"</b>	0.XXX Dec: <b>±0.010"</b>	FSCM: <b>62821</b>	Page 1 of 1
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