

## OUTPUT

### Frequency

50 MHz

### Level

CMOS square wave

## STABILITY

### Aging

$\pm 5 \times 10^{-8}$  per year after 90 days  
operating, years one and two

$\pm 3 \times 10^{-8}$  per year thereafter

### Phase Noise L(f)

10 Hz -110 dBc/Hz

100 Hz -135 dBc/Hz

1 kHz -145 dBc/Hz

10 kHz -155 dBc/Hz

100 kHz -160 dBc/Hz

### Temperature Stability

$\leq \pm 1 \times 10^{-7}$ , -20° to +70°C (Ref +25°C)

$\leq \pm 1 \times 10^{-6}$ , -40° to +85°C (Ref +25°C)

### Harmonics, and Products of 10 MHz

$\leq -30$  dBc

### Spurious

$\leq -80$  dBc

## MECHANICAL

### Dimensions

$\leq 1.03'' \times 1.03'' \times 0.515''$

### Connectors

Solder pins on base, glass stand-offs

### Packaging

Solder sealed steel can

## POWER REQUIREMENTS

### Warm-Up Power

< 3W for 5 min

### Total Power

1.0W at +25°C steady state, typical

### Supply Voltage

+5 VDC,  $\pm 2$  VDC

## ADJUSTMENT

### Electrical Tuning

$\pm 1.5 \times 10^{-6}$ , 0 - 5 VDC

Positive slope

## CRYSTAL

### Type

SC-cut, low-g:

-01 3e-10/g typical

-02 3e-10/g per axis, guaranteed

-03 2e-10/g per axis, guaranteed

-04 1e-10/g per axis, guaranteed

## ENVIRONMENTAL

### Temperature-Altitude

40,000 feet at -40°C, operating

### Storage

-54° to +85°C

### Vibration

Tested to 0.01 g<sup>2</sup>/Hz, 10 to 2kHz

### Shock

12 gs for 11 msec, three axes

Secure when mounting using

MIL-Grade epoxy

### Humidity

95 to 100 percent relative humidity,

+28° to +85°C

## DESIGN TEST DATA

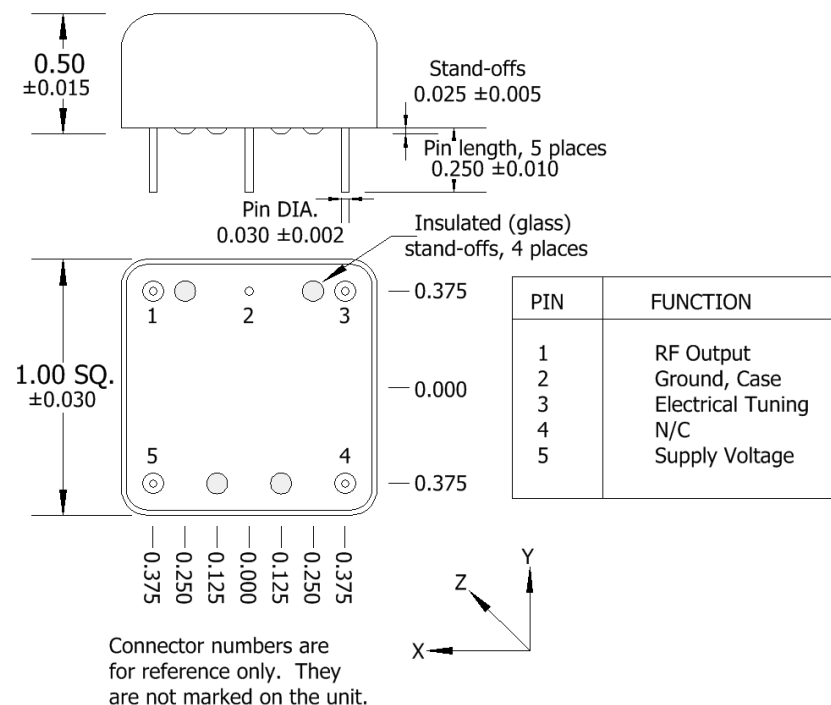
Output Level at +25°C

Static and Dynamic Phase Noise

Temperature Stability

Power – Warm-up and Total at +25°C

REV	DATE	REVISION RECORD	DWN	AUTH
-	03-09-16	Draft	Liz	



**Wenzel Associates, Inc.**

Austin, Texas

Title:

**Rugged 50 MHz-SC Onyx IV Crystal Oscillator at +5V**

P/N:

**501-29847-XX**

Rev:

**-**

Date:

**03-09-16**

Drawn:

Ref:

Tolerances:  
(except as noted)  
Dimensions are in inches

0.XX Dec:  
**±0.030"**

0.XXX Dec:  
**±0.010"**

FSCM:  
**62821**

Page **1** of **1**