

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

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

≤ -30 dBc

Spurious

≤ -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, ± 0.2 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 g²/Hz, 10 to 2kHz

Shock

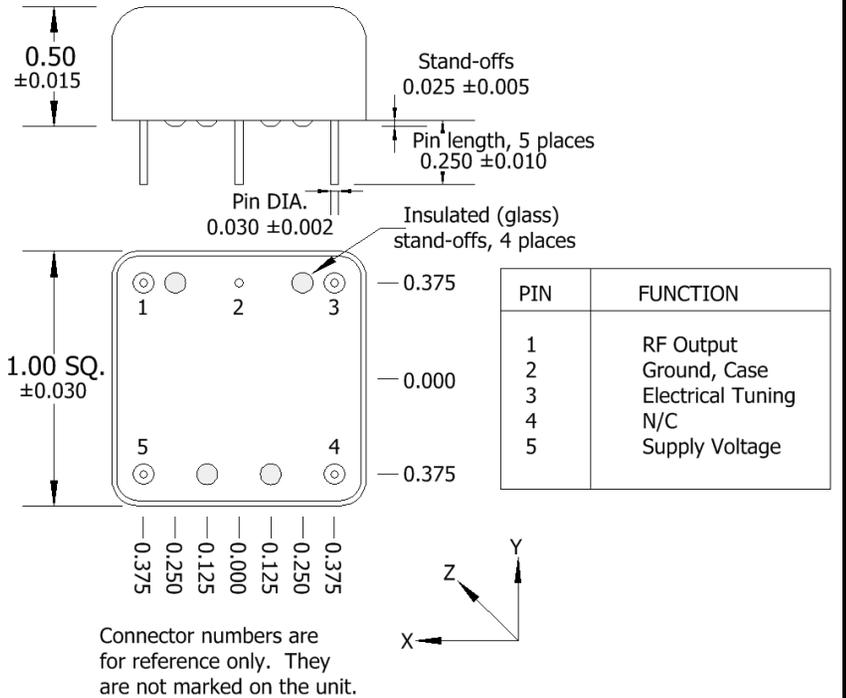
12 gs for 11 msec, three axes
Secure when mounting using MIL-Grade epoxy

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



WA 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