

REV	DATE	REVISION RECORD	DWN	AUTH
-	02-13-18	Initial Release	Liz	

**OUTPUT**

**Frequency**

100 MHz

**Level**

+10 ±2 dBm min. into 50 ohms

**STABILITY**

**Aging**

±1 x 10<sup>-6</sup> per year  
after 30 days operating, typical

**Phase Noise L(f), typical, Static**

**100 MHz**

10 Hz	-104	dBc/Hz *typical
100 Hz	-135	dBc/Hz
1 kHz	-158	dBc/Hz
10 kHz	-172	dBc/Hz
100 kHz	-174	dBc/Hz

**Temperature Stability**

≤ ±2 x 10<sup>-7</sup>, 0° to +50°C (Ref +25°C)  
≤ ±5 x 10<sup>-7</sup>, -20° to +70°C (Ref +25°C)  
≤ ±1.5 x 10<sup>-6</sup>, -40° to +85°C (Ref +25°C)

**Harmonics**

≤ -30 dBc

**Spurious**

≤ -80 dBc

**MECHANICAL**

**Dimensions**

≤ 1.03" x 1.03" x 0.515"

**Connectors**

Solder pins on base, glass stand-offs

**Packaging**

Solder sealed steel can

**POWER REQUIREMENTS**

**Warm-Up Power**

< 3W for 2.5 min

**Total Power**

1.1W at +25°C steady state, typical

**Supply Voltage**

+12 VDC, ±1 VDC

**ADJUSTMENT**

**Electrical Tuning**

±7 x 10<sup>-6</sup>, 0 - 10 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

**ENVIRONMENTAL**

**Temperature-Altitude**

40,000 feet at -40°C, operating

**Storage**

-54° to +85°C

**Vibration**

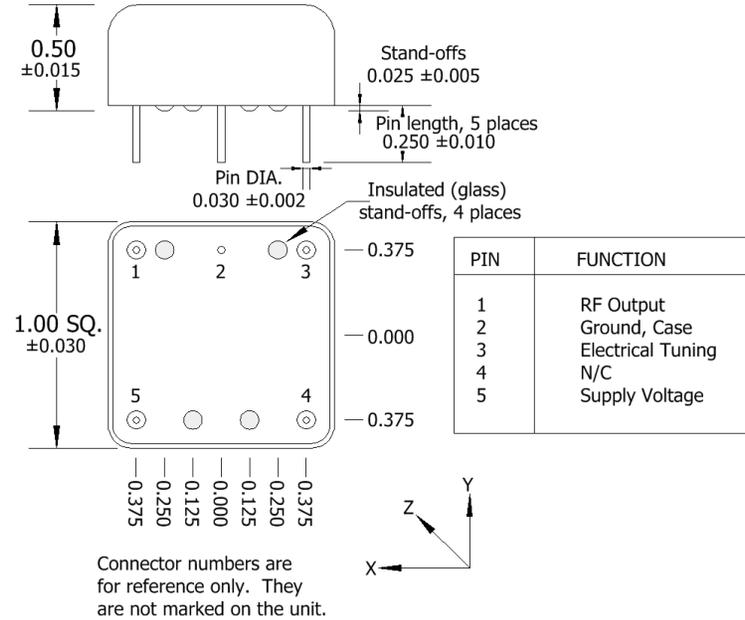
10 to 1000 Hz, 0.06 g<sup>2</sup> /Hz  
1000 Hz to 2000 Hz, -6dB/Octave  
10 gs RMS

**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



Connector numbers are for reference only. They are not marked on the unit.

Vibration Frequency	10	30	100	300	500	1000	2000
Vibration Profile	0.06	0.06	0.06	0.06	0.06	0.06	0.015
L(f)	-65.7	-75.2	-85.7	-95.2	-99.7	-105.7	-117.7

**TEST DATA**

Output Level at +25°C  
Static and Dynamic Phase Noise  
Temperature Stability  
Power – Warm-up and Total at +25°C

- 01 Phase Noise under vibration at 0.06 g<sup>2</sup> /Hz at 100 Hz in one axis
- 02 Phase Noise under vibration data, 3 axes
- 03 Phase Noise under vibration data, 3 axes



**Wenzel Associates, Inc.**

Austin, Texas

Title: <b>Premium 100 MHz-SC Rugged ONYX IV Crystal Oscillator</b>				
P/N: <b>501-31456-XX</b>	Rev: <b>-</b>	Date: <b>02-13-18</b>	Drawn:	Ref: 24762
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