

OUTPUT

Frequency

100 MHz

Level

+10 ±2 dBm min. into 50 ohms

STABILITY

Aging

±1 x 10⁻⁶ 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 10⁻⁷, 0° to +50°C (Ref +25°C)

≤ ±5 x 10⁻⁷, -20° to +70°C (Ref +25°C)

≤ ±1.5 x 10⁻⁶, -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 10⁻⁶, 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 g²/Hz

1000 Hz to 2000 Hz, -6dB/Octave

10 gs RMS

Shock

12 gs for 11 msec, three axes

Secure when mounting using

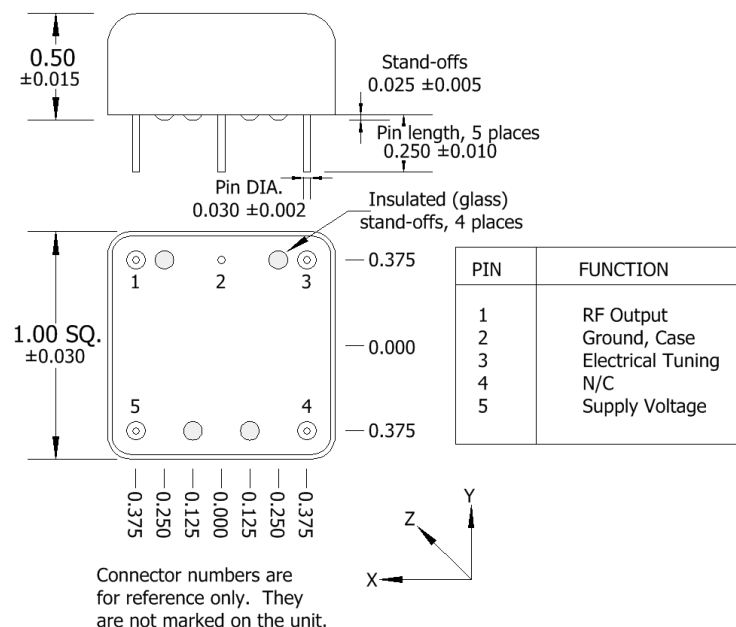
MIL-Grade epoxy

Humidity

95 to 100 percent relative humidity,

+28° to +85°C

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



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 g²/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:

Premium 100 MHz-SC Rugged ONYX IV Crystal Oscillator

P/N:

501-31456-XX

Rev:

-

Date:

02-13-18

Drawn:

Ref:

24762

Tolerances:
(except as noted)
Dimensions are in inches

0.XX Dec:

±0.030"

0.XXX Dec:

±0.010"

FSCM:

62821

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