

**EXTERNAL REFERENCE INPUT****Input Frequency**

10 MHz

**Input Level**

+7 dBm ±6 dB into 50 ohms

**OUTPUT****Output Frequency**

200 MHz

**Output Level**

A: +13 dBm ±2 dB (± 3 dB \*) into 50 ohms  
 B: +10 dBm ±2 dB (± 3 dB \*) into 50 ohms,  
 each output

**STABILITY, free running****Aging (typical)**

$1 \times 10^{-6}$  per year after 30 days operating  
 $5 \times 10^{-7}$  per year, second year  
 $3 \times 10^{-7}$  per year, thereafter

**Phase Noise L(f)**

	Standard	Premium
10 Hz	-88 dBc/Hz	-92 dBc/Hz
100 Hz	-118 dBc/Hz	-123 dBc/Hz
1 kHz	-148 dBc/Hz	-150 dBc/Hz
10 kHz	-158 dBc/Hz	-160 dBc/Hz
100 kHz	-160 dBc/Hz	-163 dBc/Hz

**Temperature Stability**

E: ± 2 x 10<sup>-7</sup>, 0° to +50°C (Ref +25°C)  
 F: ± 5 x 10<sup>-7</sup>, -20 to +70°C (Ref +25°C)  
 G\*: ± 2 x 10<sup>-6</sup>, -55° to +85°C (Ref +25°C)

**SPECTRAL PURITY****Harmonics**

-30 dBc

**Sub-Harmonics**

-50 dBc

**PLL Divider Products**

-50 dBc

**Non-Harmonic Spurious**

-70 dBc

**MECHANICAL****Packaging**

Nickel-Plated Machined Aluminum Case

A: Single Output

B: Dual output

**Dimensions**

2.5" x 3.5" x 0.8"

**Connectors**

RF Input/Output: SMA(f)

Power, Monitoring: Feed-Thru Solder Pins

GND: Ground Turret

**POWER REQUIREMENTS****Supply Voltage**

+15 VDC ±5% or +12 VDC ±5%

**Warm-Up Power**

≤ 8 Watts for 5 minutes at +25°C

**Total Power**

≤ 5 Watts at +25°C

**ADJUSTMENT****Loop BW**

Target Bandwidth: ≤ 5 Hz

Type 2 Loop

**CRYSTAL****Type**

100 MHz SC-cut (x2)

**Acceleration Sensitivity**

Select desired g-sensitivity:  
 5: 5e-10 per g, per axis typical  
 3: 3e-10 per g, per axis guaranteed  
 2: 2e-10 per g, per axis guaranteed

**PHASE LOCK STATUS****Phase Lock Alarm (ALM)**

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

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

**Phase Voltage Monitor (ΦV)**

Electrical tuning monitor pin provided

REV	DATE	REVISION RECORD	DWN	AUTH
-	03-19-14	Initial Release	CB	PAC

**Wenzel Associates, Inc.**

Austin, Texas

Title:

**200 MHz-SC Phase Lock Crystal Oscillator V1**  
**(LBW=5 Hz)**

P/N:

**501-27509-xx**

Rev:

-

Date:

**03-19-14**

Drawn:

Ref:

C/P

Tolerances:  
 (except as noted)  
 Dimensions are in inches

0.XX Dec:  
 ±0.030"

0.XXX Dec:  
 ±0.010"

FSCM:  
 62821

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## Ordering Options

-xx	G-Sensitivity	Voltage	Phase Noise L(f)	Package	Temp (Ref +25 °C)
01	5	+15V	Standard	A	E
02	5	+15V	Standard	A	F
03	5	+15V	Standard	A	G
05	5	+15V	Standard	B	E
06	5	+15V	Standard	B	F
07	5	+15V	Standard	B	G
11	5	+15V	Premium	A	E
12	5	+15V	Premium	A	F
13	5	+15V	Premium	A	G
15	5	+15V	Premium	B	E
16	5	+15V	Premium	B	F
17	5	+15V	Premium	B	G
21	5	+12V	Standard	A	E
22	5	+12V	Standard	A	F
23	5	+12V	Standard	A	G
25	5	+12V	Standard	B	E
26	5	+12V	Standard	B	F
27	5	+12V	Standard	B	G
31	5	+12V	Premium	A	E
32	5	+12V	Premium	A	F
33	5	+12V	Premium	A	G
35	5	+12V	Premium	B	E
36	5	+12V	Premium	B	F
37	5	+12V	Premium	B	G

-xx	G-Sensitivity	Voltage	Phase Noise L(f)	Package	Temp (Ref +25 °C)
41	3	+15V	Standard	A	E
42	3	+15V	Standard	A	F
43	3	+15V	Standard	A	G
45	3	+15V	Standard	B	E
46	3	+15V	Standard	B	F
47	3	+15V	Standard	B	G
51	3	+15V	Premium	A	E
52	3	+15V	Premium	A	F
53	3	+15V	Premium	A	G
55	3	+15V	Premium	B	E
56	3	+15V	Premium	B	F
57	3	+15V	Premium	B	G
61	3	+12V	Standard	A	E
62	3	+12V	Standard	A	F
63	3	+12V	Standard	A	G
65	3	+12V	Standard	B	E
66	3	+12V	Standard	B	F
67	3	+12V	Standard	B	G
71	3	+12V	Premium	A	E
72	3	+12V	Premium	A	F
73	3	+12V	Premium	A	G
75	3	+12V	Premium	B	E
76	3	+12V	Premium	B	F
77	3	+12V	Premium	B	G

-xx	G-Sensitivity	Voltage	Phase Noise L(f)	Package	Temp (Ref +25 °C)
81	2	+15V	Standard	A	E
82	2	+15V	Standard	A	F
83	2	+15V	Standard	A	G
85	2	+15V	Standard	B	E
86	2	+15V	Standard	B	F
87	2	+15V	Standard	B	G
91	2	+12V	Standard	A	E
92	2	+12V	Standard	A	F
93	2	+12V	Standard	A	G
95	2	+12V	Standard	B	E
96	2	+12V	Standard	B	F
97	2	+12V	Standard	B	G

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Dimensions are in inches

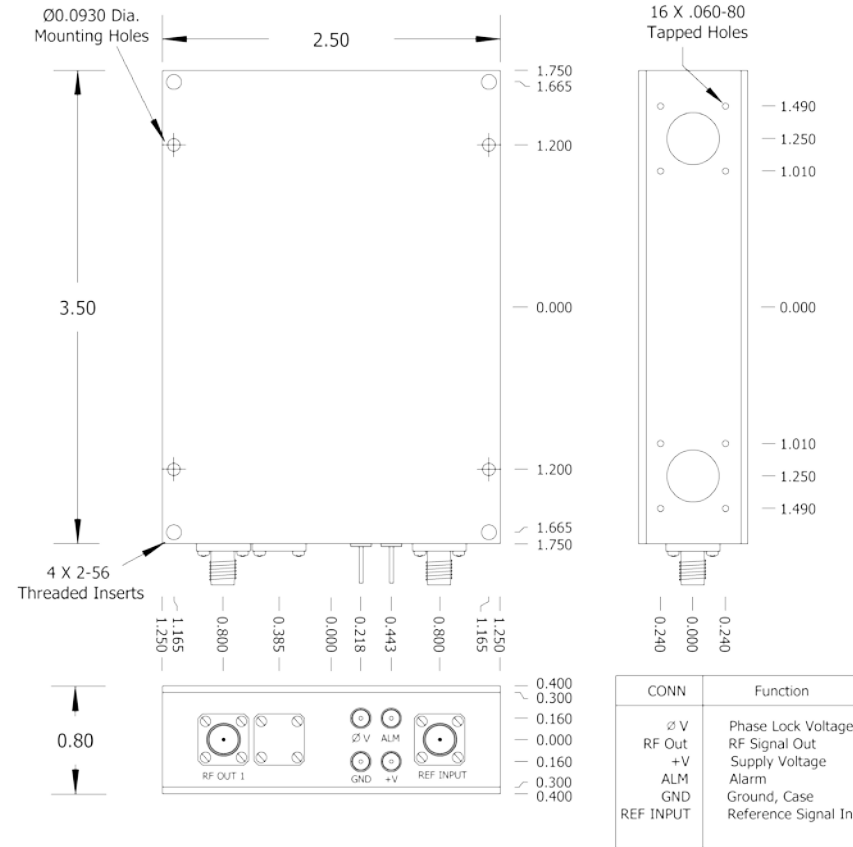
0.XX Dec:  
**±0.030"**

0.XXX Dec:  
**±0.010"**

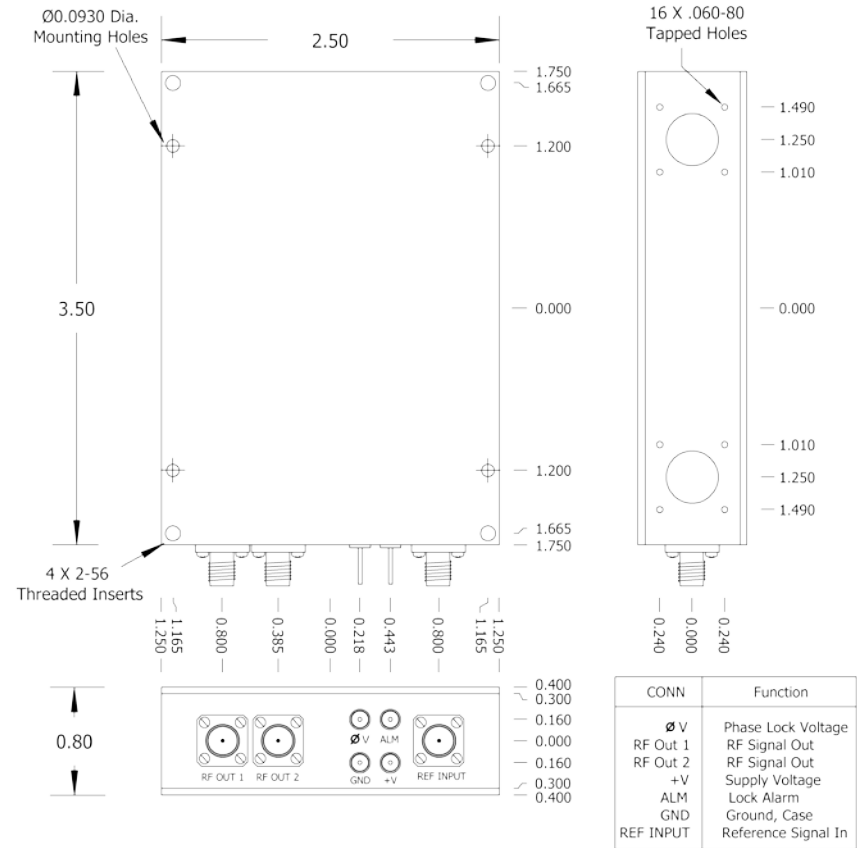
FSCM:  
**62821**

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### Package A



### Package B



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Austin, Texas

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P/N: **501-27509-xx** Rev: **-** Date: **03-19-14** Drawn: Ref: **C/P**

Tolerances: (except as noted) Dimensions are in inches 0.XX Dec: **±0.030"** 0.XXX Dec: **±0.010"** FSCM: **62821** Page **3** of **3**