

**INPUT - Selectable****Frequency**

10 MHz, -2 to +17dBm into 50 ohms

**OUTPUT – 10 MHz****Frequency**10 MHz, +10dBm  $\pm 2$  dB**Phase Noise**

1 Hz -100 dBc/Hz

10 Hz -130 dBc/Hz

100 Hz -150 dBc/Hz

1 kHz -160 dBc/Hz

10 kHz -163 dBc/Hz

**Harmonics, Subs, Spurious**

-25, -85, -85 dBc

**OUTPUT – 100 MHz****Frequency**100 MHz, +12dBm  $\pm 2$  dB**Output Phase Noise L(f)****Locked to Internal 10 MHz**

10 Hz -112 dBc/Hz

100 Hz -125 dBc/Hz

1 kHz -152 dBc/Hz

10 kHz -163 dBc/Hz

**Harmonics, Subs, Spurious**

-25, -85, -85 dBc to 600 MHz

**Loop BW**Target Bandwidth: 40 Hz, typical,  
type 2 Loop**STABILITY****Aging** $\pm 5 \times 10^{-10}$  per day at time of  
shipment,**Temperature Stability** $\pm 1 \times 10^{-8}$  without external input  
-10 to +65°C, (Ref. +25°C)**Phase Lock Alarm - TTL**

Locked: +3.5 to +5.2 VDC (Hi)

Unlocked: +0.8 VDC max (Lo)

**Phase Lock Voltage Monitor**Voltage monitor pin supplied,  
0 to +8.5 VDC range**Warm-Up**7 minutes to  $1 \times 10^{-7}$  of final  
frequency at 30 minutes at +25°C**MECHANICAL****Dimensions**

2.5 x 6.0 x 0.9"

**Connectors**

SMA's

7 Pin D-subminiature, male

**Packaging**

Nickel plated machined brass housing

**POWER REQUIREMENTS****Supply Voltage**+12  $\pm$  0.5VDC**Warm-Up Power**12.6 Watts maximum at start-up for 5  
minutes at +25° C**Total Power**

6 Watts, typical, steady state +25°C

**ADJUSTMENT****Electrical Tuning** $\pm 1$  ppm, 0 to +10 VDC

Centered at +5V DC

Negative Slope

Suitable for use with a 100 k ohm pot

**Reference Select Switch – Internal 10 MHz****By Pass**

&gt;+4.0 Volts enables external reference

&lt;+1.0 Volts disables external

**NOTE**When the external 10 MHz reference is  
applied the internal 10 MHz is disabled and  
the internal 100 MHz is phase locked to the  
external 10 MHz signal. The external 10 MHz  
is also routed through the 10 MHz output  
port.

REV	DATE	REVISION RECORD	DWN	AUTH
-	10-29-14	Initial Release	CB	
A	11-25-14	Corrected Drawing	CB	
B	11-25-14	Removed 10 MHz Vref, changed to 12VDC	CB	
C	01-27-15	Changed PL Voltage Monitor to 0 to +8.5V Changed Electrical Tuning to $\pm 1$ PPM	CB	
D	02-03-15	Changed L(10kHz) to -163 dBc/Hz	CB	

**Wenzel Associates, Inc.**

Austin, Texas

Title:

**Premium 10 and 100 MHz Phase Locked Oscillator**

P/N:

**501-28544**

Rev:

**D**

Date:

**02-03-15**

Drawn:

Ref:

501-12916

Tolerances:  
(except as noted)  
Dimensions are in inches0.XX Dec:  
 **$\pm 0.030$ "**0.XXX Dec:  
 **$\pm 0.010$ "**FSCM:  
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