

# 100MHz GPSDO DOCXO Module With CMOS, LVDS, and Sine Outputs



- **1.5 X 4.0 X 0.8 Inch Package**
- **7x 100MHz outputs: 2x +7dBm, 4x LVDS, 1x CMOS, and 10MHz out**
- **Ultra Low Phase Noise Floor - 162dBc/Hz Typical @100MHz**
- **Preliminary SPECIFICATION**

## ELECTRICAL SPECIFICATIONS:

<b>Module Specification:</b>			
1 PPS Accuracy	±30ns to UTC RMS (1-Sigma) GPS Locked		
Frequency Accuracy	Better than ±3E-010 after 1 hours operation with GPS locked		
Holdover Stability	<±7us over 24 Hour Period @+25°C (No Motion)		
ADEV	1s to 1000s: 5 to 9E-12 with GPS lock typical		
1 PPS Outputs (OCXO Flywheel Generated)	Three outputs: 5V CMOS, LVDS, and RS-232 level output		
10/100MHz Outputs (9 outputs total, 7 @100MHz, 2 at 10MHz)	4x LVDS 100MHz, 2x +7dBm, 1x CMOS, 1x Sine 10MHz, 1x LVDS 10MHz		
RS-232 Control	Full control via SCPI-99 Control Commands, NMEA-0183		
GPS Frequency	L1, C/A 1574MHz		
GPS Antenna	Passive or Active, 5V		
GPS Receiver	50 Channels, Mobile, GPS, WAAS, EGNOS, MSAS supported, Galileo ready		
Sensitivity	Acquisition -144 dBm, Tracking -160 dBm		
GPS TTFF	Cold Start - <45 sec, Warm Start - 1 sec, Hot Start - 1 sec		
TTL Alarm Output	GPS Unlock and Hardware Failure indicator		
Warm Up Time / Stabilization Time	<10 min at +25°C to 1E-09 Accuracy Typ.		
Supply Voltage (Vdd)	11.0V to 16.0V DC Nominal		
Power Consumption	< 4W at +25°C with DOCXO		
Operating Temperature	-25C to +75C (+85C extended temp range option)		
Environmental Conformance	MIL-STD-202, Method 204, Condition I-A		
Storage Temperature	-45°C to +85°C		
<b>Oscillator Specification:</b>			
Frequency Output	Both 10MHz, and 100MHz outputs		
10/100MHz Retrace	±2E-08 After 1 Hour		
Frequency Stability	±2.5E-010 over temperature, low-g option: ±3E-010 per g per axis		
Output Amplitude	100MHz: LVDS, CMOS 5V, +7dBm Sine. For 10MHz: LVDS, +12dBm Sine		
Warm Up Time	< 12 min		
Phase Noise		<b>100MHz Out</b>	<b>10MHz Out</b>
	<b>1Hz</b>	-60dBc/Hz	-100dBc/Hz
	<b>10Hz</b>	-95dBc/Hz	-125dBc/Hz
	<b>100Hz</b>	-118dBc/Hz	-140dBc/Hz
	<b>1kHz</b>	-140dBc/Hz	-142dBc/Hz
	<b>10kHz</b>	-155dBc/Hz	-145dBc/Hz
	<b>100Khz</b>	-160dBz/Hz	-145dBc/Hz
Designed Lifetime	>10 years		

## 100MHz GPSDO Mechanical Drawing



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