

# 25 or 50MHz GPSDO DOCXO Module With LVDS and CMOS Outputs



- 1.5 X 3.25 X 0.8 Inch Package
- 4x 25 or 50MHz LVDS outputs, CMOS 10MHz and 100MHz out
- Ultra Low Phase Noise Floor - 160dBc/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, after 5 days with GPS)																					
ADEV	1s to 1000s: <5 E-11 with GPS lock typical																					
1 PPS Outputs (OCXO Flywheel Generated)	Two outputs: 5V CMOS and LVDS																					
10/25/100MHz Outputs (6x total, 4x @25/50MHz, 10MHz, 100MHz)	4x LVDS 25/50MHz, 1x CMOS 100MHz, 1x CMOS 10MHz																					
RS-232 Control (TTL Level, RS-232 levels optional)	TTL Level, 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	Extended temp range: -25C to +75C																					
Environmental Conformance	MIL-STD-202, Method 204, Condition I-A																					
Storage Temperature	-45°C to +85°C																					
<b>Oscillator Specification:</b>																						
Frequency Output	10MHz, 25/50MHz, and 100MHz outputs																					
10/100MHz Retrace without GPS	±2E-08 After 1 Hour																					
Frequency Stability	±2.5E-010 over temperature, low-g option: ±3E-010 per g per axis																					
Output Amplitude	100MHz: CMOS 3.3V, 10MHz: CMOS 5V, 25/50MHz: LVDS																					
Warm Up Time	< 12 min																					
Phase Noise	<table border="1"> <thead> <tr> <th></th> <th>25MHz Out</th> <th>10MHz Out</th> </tr> </thead> <tbody> <tr> <td>1Hz</td> <td>-88dBc/Hz</td> <td>-100dBc/Hz</td> </tr> <tr> <td>10Hz</td> <td>-109dBc/Hz</td> <td>-125dBc/Hz</td> </tr> <tr> <td>100Hz</td> <td>-125dBc/Hz</td> <td>-142dBc/Hz</td> </tr> <tr> <td>1kHz</td> <td>-145dBc/Hz</td> <td>-152dBc/Hz</td> </tr> <tr> <td>10kHz</td> <td>-155dBc/Hz</td> <td>-155dBc/Hz</td> </tr> <tr> <td>100Khz</td> <td>-160dBz/Hz</td> <td>-155dBc/Hz</td> </tr> </tbody> </table>		25MHz Out	10MHz Out	1Hz	-88dBc/Hz	-100dBc/Hz	10Hz	-109dBc/Hz	-125dBc/Hz	100Hz	-125dBc/Hz	-142dBc/Hz	1kHz	-145dBc/Hz	-152dBc/Hz	10kHz	-155dBc/Hz	-155dBc/Hz	100Khz	-160dBz/Hz	-155dBc/Hz
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Designed Lifetime	>10 years																					

## 25/50MHz GPSDO Mechanical Drawing



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