

# LC\_XO OCXO Low Cost Ultra Small GPSDO Module Spec – gen-2

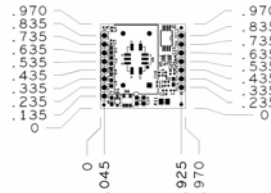


- 0.97 X 0.97 X 0.5 inch Module
- < 1 Min. OCXO Warm Up
- 50 Channel WAAS GPS Receiver
- Very Low Power. Ovenized crystal
- PRELIMINARY SPECIFICATION

## TYP. ELECTRICAL SPECIFICATIONS:

<b>Module Specification:</b>																						
1 PPS Accuracy	±35ns to UTC RMS (1-Sigma) GPS Locked																					
Holdover Stability after 72 hours with GPS	< ±20us over 3 Hour Period @ +25°C (No Motion, no airflow)																					
1 PPS Output	3.3VDC CMOS																					
Serial Control	SCPI-99 TTL Level, GPS NMEA Output																					
GPS Frequency	L1, C/A 1574MHz																					
GPS Antenna	Active or Passive																					
GPS Receiver	50 Channels, Mobile, SBAS WAAS, EGNOS, MSAS capable																					
Sensitivity	Acquisition -142 dBm, Tracking -158 dBm																					
GPS TTFF	Cold Start - <45 sec, Warm Start - 1 sec, Hot Start - 1 sec																					
ADEV	10Ks <5E-012 (OCXO, GPS Locked, 25°C, no motion, no airflow)																					
TTL Alarm Output	GPS LOCK indicator																					
Warm Up Time / Stabilization Time	<5 min at +25°C to 1E-08 Accuracy																					
Supply Voltage (Vdd)	3.3V Single-Supply only (5V internally generated and filtered)																					
Power Consumption	0.7W steady-state																					
Operating Temperature	0°C to +60°C, -20C to +75C optional																					
Storage Temperature	-45°C to +85°C																					
Additional Features	Firmware field-upgradable, external 1PPS input, status LEDs, compatible to GPSCon, SNTp, GPSD, and Z38xx software applications, full NMEA																					
<b>Oscillator Specification (OCXO):</b>																						
Frequency Output	10MHz CMOS 5Vpp (3.3Vpp optional)																					
10MHz Retrace	±2E-08 After 1 Hour @ +25°C																					
Frequency Stability Over Temperature (GPS Unlock Condition)	±2.5E-08																					
Output Amplitude	5Vpp CMOS																					
OCXO Warm Up Time	< 1 min @ +25°C																					
Phase Noise (with 33uF or larger cap on 5V_Output pin 6)	<table border="1"> <thead> <tr> <th></th> <th>TCXO</th> <th>OCXO</th> </tr> </thead> <tbody> <tr> <td>1Hz</td> <td>-65dBc/Hz</td> <td>-75dBc/Hz</td> </tr> <tr> <td>10Hz</td> <td>-102dBc/Hz</td> <td>-110dBc/Hz</td> </tr> <tr> <td>100Hz</td> <td>-132dBc/Hz</td> <td>-132dBc/Hz</td> </tr> <tr> <td>1kHz</td> <td>-148dBc/Hz</td> <td>-142dBc/Hz</td> </tr> <tr> <td>10kHz</td> <td>-152dBc/Hz</td> <td>-145dBc/Hz</td> </tr> <tr> <td>100KHz</td> <td>&lt;-155dBc/Hz</td> <td>&lt;-150dBc/Hz</td> </tr> </tbody> </table>		TCXO	OCXO	1Hz	-65dBc/Hz	-75dBc/Hz	10Hz	-102dBc/Hz	-110dBc/Hz	100Hz	-132dBc/Hz	-132dBc/Hz	1kHz	-148dBc/Hz	-142dBc/Hz	10kHz	-152dBc/Hz	-145dBc/Hz	100KHz	<-155dBc/Hz	<-150dBc/Hz
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<b>Connections:</b>																						
1PPS Output, 10MHz Output, power, serial communication, system status, NMEA, 1PPS in, ISP mode enable, antenna input	<b>Connector Type:</b> 100 mil spacing on pins, can be soldered, or plugged into a socket, gold-plated pins																					

## LC\_XO OCXO Gen-2, part number: 1009301-g2



**Jackson Labs Technologies, Inc.**, 10191 Park Run Dr., Suite 100, Las Vegas, NV 89144  
 Phone: (702) 233-1334, Fax: (702) 233-1073, [www.jackson-labs.com](http://www.jackson-labs.com)  
[sales@jackson-labs.com](mailto:sales@jackson-labs.com)

