

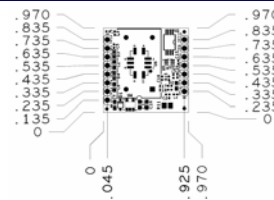
LC_XO Low Cost Ultra Small 1x1 inch GPSDO Module Spec



- 0.97 X 0.97 X 0.5 inch Module with pins
- < 1 Min. Crystal Warm Up
- 50 Channel WAAS GPS Receiver
- Very Low Power, TCXO or OCXO
- PRELIMINARY SPECIFICATION

TYP. ELECTRICAL SPECIFICATIONS:

Module Specification:			
1 PPS Accuracy	±50ns to UTC RMS (1-Sigma) GPS Locked		
Holdover Stability	<±20us over 3 Hour Period @+25°C (No Motion, OCXO)		
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)		
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 with OCXO, 0.5W with TCXO		
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		
Oscillator Specification (OCXO):			
Frequency Output	10MHz CMOS 5Vpp (3.3Vpp optional)		
10MHz Retrace	±2E-08 After 1 Hour @ +25°C		
Frequency Stability Over Temperature (Unlock Condition)	±2.5E-08 (OCXO) ±7.5E-08 (TCXO)		
Output Amplitude	5Vpp CMOS		
OCXO Warm Up Time	< 1 min @ +25°C		
Phase Noise (with 33uF or larger cap on 5V_Output pin 6)		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
Connections:			
1PPS Output, 10MHz Output, power, serial communication, system status, NMEA, 1PPS in, ISP mode enable, antenna input	Connector Type: 100 mil spacing on pins, can be soldered, or plugged into a socket, gold-plated pins		



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LC_XO PINOUT DESCRIPTION:

