

VIAVI

LC XO

OCXO Low Cost Ultra Small GPSDO Module – Gen 3

Typical Electrical Specifications

Module Specifications	
1 PPS Accuracy	± 35 ns to UTC RMS (1-Sigma) GPS Locked
Holdover Stability after 72 hours with GPS	$< \pm 20$ us over 3 Hour Period @ +25°C (No Motion, no airflow)
1 PPS Output	3.3 VDC CMOS
Serial Control	SCPI-99 TTL Level, GPS NMEA Output
GPS Frequency	L1, C/A 1574 MHz
GPS Antenna	Active or Passive
GPS Receiver	70 Channels, GPS, Glonass, Galileo, BeiDout, QZSS, SBAS capable
Sensitivity	Acquisition -148 dBm, Tracking -167 dBm (GPS & Glonass)
GNSS TTFF	Cold Start - <30 sec, Warm Start -2 sec, Hot Start -2 sec
ADEV	10 Ks $< 5E-012$ (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)	3.3 V Single-Supply only (5V internally generated and filtered)
Power Consumption	0.7 W steady state
Operating Temperature	0°C to +60°C, -20°C to +75°C optional
Storage Temperature	-45°C to +85°C
Additional Features	Firmware field-upgradable, external 1 PPS input, status LEDs, compatible to GPSCon, SNTTP, GPSD, and Z38xx software applications, full NMEA

Oscillator Specification (OCXO)

Frequency Output	10 MHz CMOS 5Vpp (3.3Vpp optional)	
10 MHz Retrace	$\pm 2 \text{ E-08}$ After 1 Hour @ +25°C	
Frequency Stability Over Temperature (GPS Unlock Condition)	$\pm 2.5 \text{ E-08}$	
Output Amplitude	5Vpp CMOS	
OCXO Warm Up Time	< 1 min @ +25°C	
Phase Noise (with 33uF or larger cap on 5V Output pin 6)	1 Hz	-75 dBc/Hz
	10 Hz	-110 dBc/Hz
	100 Hz	-132 dBc/Hz
	1 kHz	-142 dBc/Hz
	10 kHz	-145 dBc/Hz
	100 kHz	<-150 dBc/Hz

Connectors

Connector Type	Description
1 PPS Output, 10 MHz Output, power, serial communication, system status, NMEA, 1PPS in, ISP mode enable, antenna input	100 mil spacing on pins, can be soldered, or plugged into a socket, gold-plated pins
1 PPS Output	Power, serial communication, system status, NMEA, ISP mode enable, antenna input
10 MHz Output	Power, serial communication, system status, NMEA, ISP mode enable, antenna input
1 PPS Input	Power, serial communication, system status, NMEA, ISP mode enable, antenna input