

VIAVI

LC XO

TCXO Low Cost 1x1 Inch GPSDO Module – Gen 3

Typical Electrical Specifications

Module Specifications	
1 PPS Accuracy	± 50 ns to UTC RMS (1-Sigma) GPS Locked
Holdover Stability after 72 hours with GPS	$< \pm 35$ μ s 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 1574MHz
GPS Antenna	Active or Passive
GPS Receiver	72 Channels, GPS, Glonass, Galileo, BeiDou, QZSS, SBAS capable
Sensitivity	
Acquisition	-148 dBm
Tracking	-167 dBm (GPS and Glonass)
GNSS TTFF	
Cold Start	<30 sec
Warm Start	-2 sec
Hot Start	-2 sec
ADEV	10 Ks $< 2E-012$ (GPS Locked, 25°C, no motion, no airflow)
TTL Alarm Output	GPS LOCK indicator
Warm Up Time/Stabilization Time	<10 min at +25°C to 1E-09 Accuracy

Supply Voltage (Vdd)	3.3 V Single-Supply only (5 V internally generated and filtered)	
Power Consumption	0.4 W with TCXO	
Operating Temperature	-10°C to +75°C, -40°C to +85°C 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 (TCXO)		
Frequency Output	10 MHz CMOS 5 Vpp (3.3 Vpp optional)	
10 MHz Retrace	±2 E-08 After 1 Hour @ +25°C	
Frequency Stability Over Temperature (GPS Unlock Condition)	±7.5 E-08 (TCXO, 0C to +60°C)	
Output Amplitude	5 Vpp CMOS	
TCXO Warm Up Time	Instant-on, no warmup period required	
Phase Noise (with 33uF or larger cap on 5V Output pin 6)	1 Hz	-65 dBc/Hz
	10 Hz	-102 dBc/Hz
	100 Hz	-132 dBc/Hz
	1 kHz	-148 dBc/Hz
	10 kHz	-152 dBc/Hz
	100 kHz	<-155 dBc/Hz
Connections	1 PPS Output, 10 MHz Output, power, serial communication, system status, NMEA, 1 PPS in, ISP mode enable, antenna input	
Connector Type	100 mil spacing on pins, can be soldered, or plugged into a socket, gold-plated pins	