

Mini-JLT™ GPSDO with USB, 2x 10MHz Outputs, legacy replacement



- Form-factor compatible to end-of-life Trimble Mini-T™ GPS Module
- Improved Phase-Noise/ADEV Performance, DOCXO option
- USB and TTL serial port support
- 50 Channel WAAS GPS Receiver
- Additional +13dBm 10MHz output
- PRELIMINARY SPECIFICATION

TYP. ELECTRICAL SPECIFICATIONS:

Module Specification:			
1 PPS Stability	<±15ns to UTC RMS (1-Sigma) GPS Locked		
Serial Control	GPS NMEA and Status Output, SCPI-99 control, USB and TTL Port		
GPS Frequency, antenna power	C/A 1574MHz, 3.3V antenna-power built-in, 5V external supply option		
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 SOCXO	1s < 7E-012, 1Ks < 7E-011, 10Ks < 8E-012 (25°C, no motion/airflow)		
ADEV DOCXO option	1s < 5E-012, 1Ks < 3E-011, 10Ks < 3E-012 (25°C, no motion/airflow)		
Holdover at 25.0°C, no airflow, no motion/vibration, 5 days GPS locked	<5us in 5 hours (SOCXO), <4us in 24 hours (DOCXO)		
Warmup and Stabilization Time	<12 min at +25°C to <1E-09 Accuracy to GPS		
Supply Voltage (Vdd)	5V ±1.0V		
Power Consumption	<2.4W (SOCXO), <3.2W (DOCXO) @25C, <8W during warmup		
Operating Temperature	-45°C to +80°C (SOCXO), 0°C to +75°C (DOCXO)		
1PPS External Reference Input	Supports an optional external 1PPS input on pin 1 of power connector		
10MHz outputs	1x 10MHz at +5dBm, 1x optional 10MHz at +13dBm, ±3dB		
3-axis accelerometer	Up to 20 readings/s, can be used for electronic g-compensation option		
Oscillator Specification (SOCXO):			
Frequency Output	10MHz at +5dBm and +13dBm		
10MHz Retrace	<±1E-09 After 1 Hour @ +25°C (no GPS)		
Frequency Stability over Temperature, and over 24hrs	±6E-09 (SOCXO), ±0.5E-09 (DOCXO), <1E-012 over 24hrs (with GPS)		
Output Harmonics, spurs	<-50dBc/Hz, <-115dBc/Hz		
OCXO aging (fully compensated by GPS)	<±0.1ppm per year without GPS		
Phase Noise @ 10MHz			
		SOCXO	DOCXO
	1Hz	-90dBc/Hz	-94dBc/Hz
	10Hz	-128dBc/Hz	-132dBc/Hz
	100Hz	-148dBc/Hz	-142dBc/Hz
	1kHz	-153dBc/Hz	-150dBc/Hz
10kHz	-155dBc/Hz	-152dBc/Hz	
100kHz	<-155dBc/Hz	-152dBc/Hz	
Connections:		Connector Type:	
2x 10MHz Sine Wave Out (second output not stuffed), GPS Antenna		SMA	
+5V Power, ext. 1PPS input, TTL serial port, Ant. power (3.3V to 5.5V)		Molex PN 70543-0005	
USB Communication		Mini USB, USB 2.0	

Mini-JLT GPSDO Module:



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