

Data Sheet

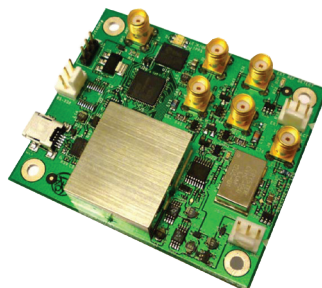
VIAVI

FireFly-1C

GPSTCXO with USB, 10 MHz, and 100 MHz Sine Out

Typical Electrical Specifications

Module Specifications	
1 PPS Accuracy	± 75 ns to UTC RMS (1-Sigma) GPS Locked (<20 ns typical)
Serial Control	GPS NMEA and Status Output, SCPI-99 control, USB Port
GPS Frequency	L1, C/A 1574 MHz
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 (10 MHz outputs)	
1K s	<1E-010
10K s	<2E-011 (GPS Locked, 25°C, no motion/airflow)
TTL Alarm Output	GPS LOCK, EXT REF LOCK, and Event indicator
Stabilization Time	<5 min at +25°C to 1E-08 Accuracy to GPS, <2 s to external 10 MHz Ref
Supply Voltage (Vdd)	5 V $\pm 5\%$, <220 mA
Power Consumption	1.1 W
Operating Temperature	-20°C to +70°C



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Module Specifications continued			
10 MHz External Reference Input	10 MHz TCXO locked to external 10 MHz reference with 5 Hz loop BW Auto-switchover to EXT IN, EXT REFLOCK LED output 0 dBm to +15 dBm (+20 dBm max level)		
10 MHz/100 MHz outputs	2x 10 MHz at +13 dBm, 1x 100 MHz at +7 dBm, ±3 dB		
100 MHz PLL	100 MHz VCXO Locked to 10 MHz TCXO, 8 Hz loop BW		
Oscillator Specification (TCXO)			
Frequency Output	10 MHz with ±80 Hz range from 10 MHz nominal adjust range		
10 MHz Retrace	±2E-08 After 1 Hour @ +25°C (no GPS)		
Frequency Stability over Temperature, and over 24 hrs	±1.5E-07 (no GPS), <5E-012 over 24hrs (with GPS)		
Output Amplitude	+13 dBm ±3 dBm Sine Wave		
TCXO aging (fully compensated by GPS)	<±1 ppm per year without GPS		
Phase Noise (10 MHz TCXO, 100 MHz VCXO)		10 MHz	100 MHz
	1 Hz	-70 dBc/Hz	
	10 Hz	-100 dBc/Hz	-77 dBc/Hz
	100 Hz	-128 dBc/Hz	-108 dBc/Hz
	1 kHz	-145 dBc/Hz	-142 dBc/Hz
	10 kHz	-152 dBc/Hz	-153 dBc/Hz
	100 kHz	<-155 dBc/Hz	-160 dBc/Hz
Connections		Connector Type	
2 x 10 MHz Sine Wave Out, 10 MHz Sine Wave REF Input, 1x 100 MHz Sine, Wave Out, 1 PPS Output	SMA		
+5 V Power, GPS Lock/Event Status, 100 MHz PLL lock LED, 10 MHz EXT REF lock Status	Molex PN 22-11-2032		
USB Power and Communication	Mini USB		

NOTE: Specifications subject to change without notice.



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