VIAVI Solutions

Data Sheet

VIAVI
LN CSAC GPSDO

Low Noise Chip Scale Atomic Clock GPSDO Ultra-low Noise Frequency Standard

Typical Electrical Specifications

Module Specifications	
Long-Term Oscillator Aging	Less than 0.3 ppb per month in holdover without GPS
	Zero aging with GPS
Frequency Stability Over Temperature	Better than ±0.5E-09 (CSAC only, no GPS Disciplining, 0°C to +75°C)
1 PPS Accuracy	±15 ns to UTC RMS (1-Sigma) GPS Locked in Position Hold mode
Holdover Stability after 96 hours warmup	<±2 µs over 24 Hour Period @+25°C (after 20 minutes with GPS lock)
ADEV (DOCXO after 24 hours with GPS lock)	
1 s	<2E-12
10 s	<6E-12
100 s	<7E-12
1K s	<7E-12
10K s	<2E-12
1 PPS Output (CSAC Flywheel Generated)	5 V CMOS output, can be shifted in 1 ns steps relative to UTC
10 MHz Output, 5 MHz Output	Four Isolated 10 MHz Sine Wave +13 dBm ±3 dBm, one 5 MHz CMOS 5 V
Distribution Amplifier Port Isolation	
2 MHz	>98 dB
10 MHz	>85 dB
RS-232/USB Control	SCPI-99 Control at 9.6 K, 19.2 K, 38.4 K, 57.6 K, 115.2 K

LN CSAC GPSDO

Module Specifications continued			
RS-232/USB NMEA Output Sentences	NMEA 0183 rev. 2.3, Sentences: GGA, RMC, ZDA, PASHR, and others		
GPS Frequency, Antenna	L1 C/A 1574 MHz, Passive or Active Antenna 5 V, MMCX Connector		
GPS Receiver	50 Channels, Mobile, SBAS: WAAS, EGNOS, MSAS supported		
Sensitivity			
Acquisition	-144 dBm		
Tracking	-160 dBm		
GPS Receiver Motion Adaptive Filter Settings	Optimized depending on vehicle velocity (Auto-sensing, Auto-switching)		
TTL Alarm Output	GPS Unlock and Hardware Failure indicator		
Warm Up Time/Stabilization Time Without GPS	+25°C to <5E-010 Accuracy Typical; CSAC: <3 min, Filter: <12 min		
Supply Voltage (Vdd)	12 V, ±1 V		
Power Consumption	<5 W at +25°C steady-state, <9 W warmup		
Temperature			
Operating Temperature	-10°C to +70°C		
Storage Temperature	-45°C to +85°C		
g-sensitivity	CSAC: <0.2 ppb/g/axis, Filter: <0.3 ppb/g/axis with low-g option		
Magnetic Sensitivity	Less than 0.4 ppb per Gauss long term		
MTBF	>100,000 Hours (0°C to +70°C)		
USB, LCD support	RS-232 or USB controlled, supports 16x2 LCD Displays		
Phase Noise (standard temp DOCXO option)	***Offset***	***CSAC***	***Filter***
	1 Hz	NA	-100 dBc/Hz
	10 Hz	-90 dBc/Hz	-135 dBc/Hz
	100 Hz	-125 dBc/Hz	-145 dBc/Hz
	1 kHz	-145 dBc/Hz	-150 dBc/Hz
	10 kHz	-152 dBc/Hz	-155 dBc/Hz
	100 kHz	-153 dBc/Hz	-155 dBc/Hz

NOTE: Specifications subject to change without notice.

VIAVI Solutions

Contact Us +1 800 835 2352
avcomm.sales@viavisolutions.com

To reach the VIAVI office nearest you, visit viavisolutions.com/contact.

In-csac-gpsdo-ds-avi-nse-ae
30194021 900 0124