

# VIAVI

## ULN 1100

100 MHz GPSDO DOCXO Module With CMOS, LVDS, and Sine Outputs

### Typical Electrical Specifications

Module Specifications	
1 PPS Accuracy	$\pm 30$ ns to UTC RMS (1-Sigma) GPS Locked
Frequency Accuracy	Better than $\pm 3E-010$ after 1 hour of operation with GPS locked
Holdover Stability	$< \pm 7$ $\mu$ s over 24 hour Period @ +25°C (No Motion)
ADEV	1 s to 1000 s: 5 to 9E-12 with GPS lock typical
1 PPS Outputs (OCXO Flywheel Generated)	Three outputs: 5 V CMOS, LVDS, and RS-232 level output
10/100 MHz Outputs (9 outputs total, 7 @100 MHz, 2 at 10 MHz)	4x LVDS 100MHz, 2x +7 dBm, 1x CMOS, 1x Sine 10 MHz, 1x LVDS 10 MHz
RS-232 Control	Full control via SCPI-99 Control Commands, NMEA-0183
GPS Frequency	L1, C/A 1574 MHz
GPS Antenna	Passive or Active, 5 V
GPS Receiver	50 Channels, Mobile, GPS, WAAS, EGNOS, MSAS supported, Galileo ready
Sensitivity	
Acquisition	-144 dBm
Tracking	-160 dBm
GPS TTFF	
Cold Start	< 45 sec
Warm Start	1 sec
Hot Start	1 sec
TTL Alarm Output	GPS Unlock and Hardware Failure indicator
Warm Up Time/Stabilization Time	< 10 min at +25°C to 1E-09 Accuracy Typ.
Supply Voltage (Vdd)	11.0 V to 16.0 V DC Nominal



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## Module Specifications continued

Power Consumption	< 4 W at +25°C with DOCXO
Temperature	
Operating Temperature	-25°C to +75°C (+85°C extended temp range option)
Storage Temperature	-45°C to +85°C
Environmental Conformance	MIL-STD-202, Method 204, Condition I-A

## Oscillator Specification

Frequency Output	Both 10 MHz, and 100 MHz outputs		
10/100 MHz Retrace	±2E-08 After 1 Hour		
Frequency Stability	±2.5E-010 over temperature, low-g option: ±3E-010 per g per axis		
Output Amplitude			
100 MHz	LVDS, CMOS 5 V, +7 dBm Sine		
10 MHz	LVDS, +12 dBm Sine		
Warm Up Time	<12 min		
Phase Noise		<b>100 MHz Out</b>	<b>10 MHz Out</b>
	1 Hz	-60 dBc/Hz	-100 dBc/Hz
	10 Hz	-95 dBc/Hz	-125 dBc/Hz
	100 Hz	-118 dBc/Hz	-140 dBc/Hz
	1 kHz	-140 dBc/Hz	-142 dBc/Hz
	10 kHz	-155 dBc/Hz	-14 5dBc/Hz
	100 kHz	-160 dBc/Hz	-145 dBc/Hz
Designed Lifetime	>10 years		

NOTE: Specifications subject to change without notice.



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