

Description: GPS Guided Oscillator Module

Nominal Freq.: 10 MHz

DEI P/N: GPSGO1201

Revision: 01

Date: 2012.06.06

Approved / Date	Checked / Date	Prepared / Date
Greg/2012.06	David/2012.06.06	Catherine/2012.06.06

Customer: _____

Customer P/N: N/A

REVISION HISTORY

Revision #	Revised Page(s)	Revision Content	Date	Ref Number	Revision Requested by	Reviser
1		Initial Release	06/06/12			

Features

GPS 10 MHz Frequency Standard
 Approaches 1E-12 Long Term Stability
 Excellent holdover with internal OCXO
 Sine wave and 1 PPS outputs

Picture of Part



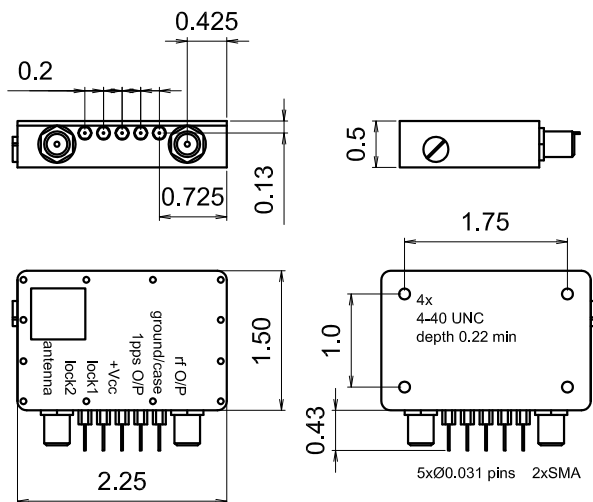
Typical Applications

Instrument Calibration
 System Synchronization
 Broadcast Reference Standard
 WiMax , LTE base stations
 Stringent Timing Accuracy

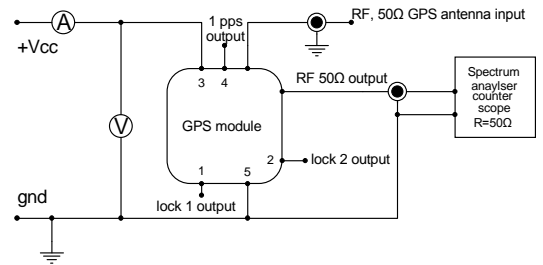
Description

The GPSGO1201 is a component level module that utilizes an internal GPS receiver chip to LOCK onto GPS to Achieve long term stability of on-board satellite cesium clocks nearing 1E-12 per 24 hours. When phase lock to GPS is lost the module will assume the holdover performance of the internal OCXO.

Mechanical Package and Test Circuit



Dimensions(inches)



Specifications

OCXO Specification	Sym.	Condition	Value			Unit	Note
			Min.	Typ.	Max.		
Operational Frequency Range	f_0			10.000		MHz	
Outputs							
	1 PPS Output		LVCMOS levels				
	Lock 1		LVCMOS levels				
	Lock 2		LVCMOS levels				
Sine-wave Output	Level	L	7	10	13	dBm	
	Load	R_L	45	50	55	Ohm	
	Harmonics				-50	dBc	
Power supply							
Voltage	V_{cc}		11.4	12.0	12.60	V	
Current Consumption		Warm-up state Steady state, +25 °C			450 250	mA mA	
Warm-up time***	t_{up}	To within +/- 100 ppb at +25 °C			5	min	
1 PPS ACCURACY							
			-50		+50	NS	Nano-seconds
Frequency stability							
vs. temperature		-40 °C to +70 °C, ref 25 °C	-20.0		+20.0	ppb	HOLDOVER (not locked to GPS)
vs. 5% change in supply voltage		ref V_{cc} typ.	-2.0		+2.0	ppb	
WHEN LOCKED to GPS			-0.001		+0.001	ppb	1E-12 when locked
SSB Phase noise of sine wave 10 MHz output during LOCK or in holdover		10 Hz		-130		dBc/Hz	for 10MHz operational freq. IN GPS LOCK or NOT in LOCK FREE RUNNING
		100 Hz		-150			
		1000 Hz		-155			
		10 kHz		-160			
Short Term Stability		$\tau = 1\text{sec}$			1.0	E-11	
Aging		Projected first year aging after 30 days operation					
	first year				0.05	ppm	
Environmental, mechanical conditions.							
Operating temperature range		-40 °C to +70 °C,					
Storage temperature range		-40 °C to +125 °C,					