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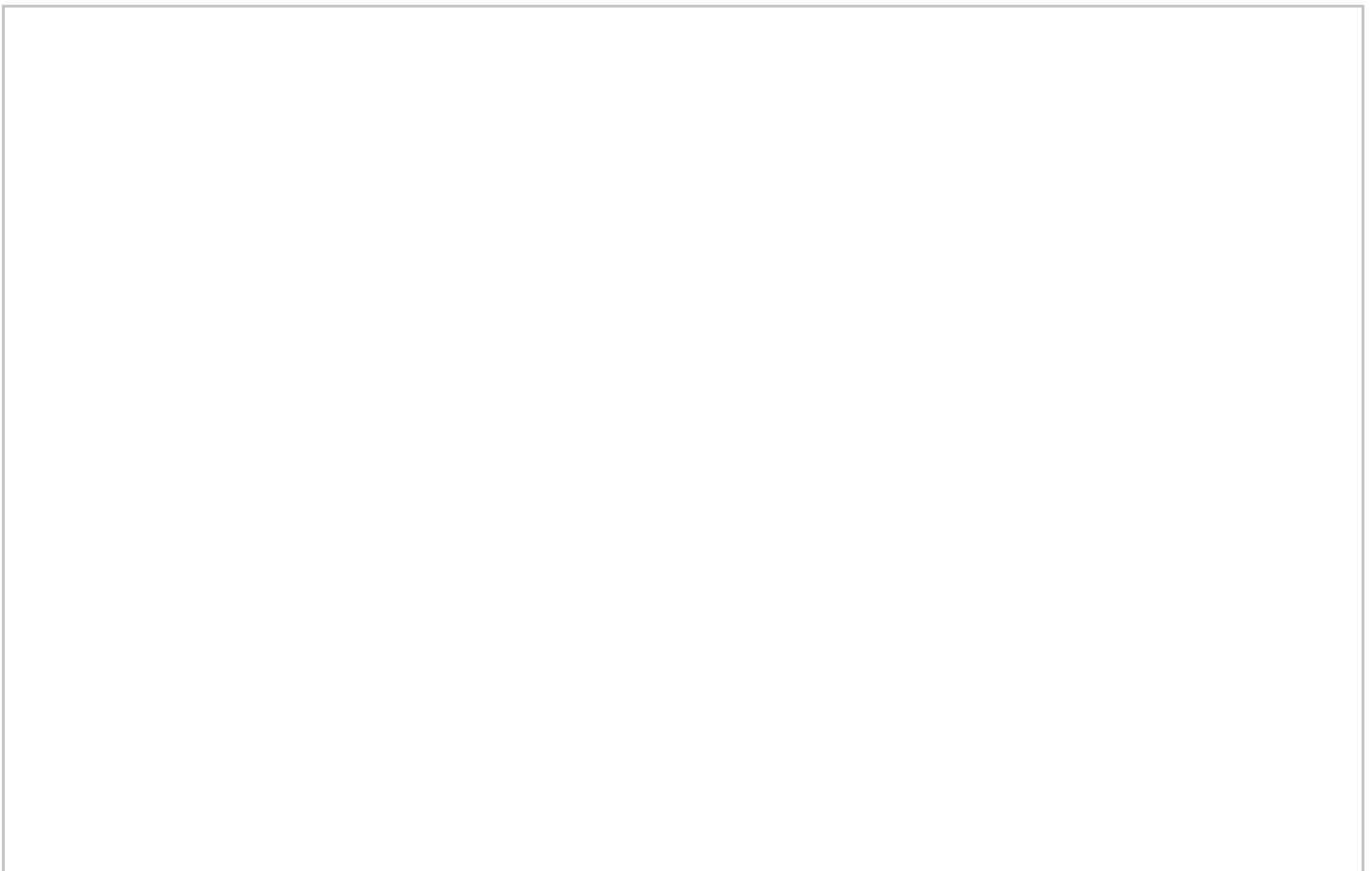


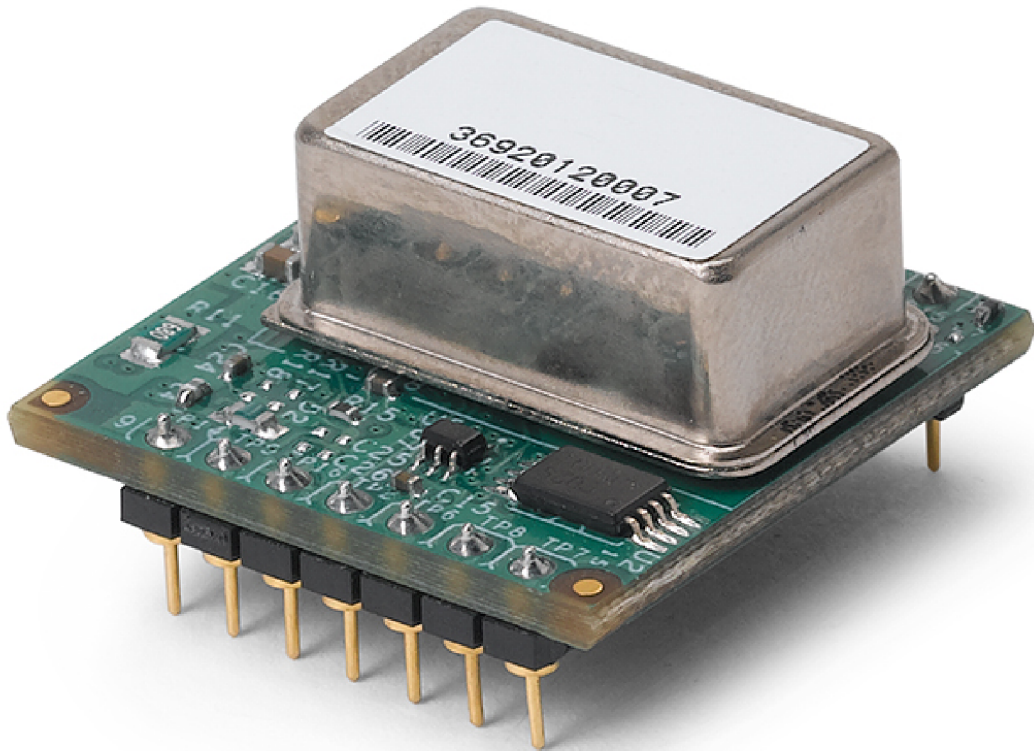
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Board Mounted GPSDO (OCXO) Recommended for USRP X300/X310





783173-01

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Recommended for USRP X300/X310

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GPSDO for USRP X Series (PCB-Mounted GPS-Disciplined OCXO)

This is a GPS-disciplined, oven-controlled crystal oscillator (GPSDO), which is compatible with a USRP X300 or X310. The GPSDO provides a high-accuracy 10 MHz reference and 1 PPS signal. This allows developers to build system that serve applications with tight synchronization requirements, or global timing alignment within 50 ns.

Overview



Additional Resources



Overview

Additional Resources

Overview

This is a GPS-disciplined, oven-controlled crystal oscillator (GPSDO), which is compatible with a USRP X300 or X310. It can also be used with the [USRP B200/B210](#), but the system will require external power. The GPSDO provides a high-accuracy 10 MHz reference and 1 PPS signal, which allow developers to build systems that serve applications with improved frequency accuracy and global timing alignment.

We recommend reading the [GPSDO Selection Guide](#) to ensure this is the right device for your application.

Module Specifications

1 PPS Accuracy	$\pm 50\text{ns}$ to UTC RMS (1-Sigma) GPS Locked
Holdover Stability	$< \pm 20\mu\text{s}$ over 3 hour period at +25C
1 PPS Output (OCXO Flywheel Generated)	3.3VDC CMOS
RS-232 Control	NMEA & SCPI-99 Control Commands, Integrated into UHF
GPS Frequency	L1, C/A 1574MHz
GPS Antenna	Active (5V compatible) or Passive
GPS Receiver	50 Channels, Mobile, WAAS, EGNOS, MSAS capable
Sensitivity	Acquisition -142dBm, Tracking -168dBm
TTF	Cold Start: <45 sec, Warm Start: 1 sec, Hot Start: 1 sec
ADEV	1E-11 at 1s
Warm Up Time / Stabilization Time	<5 min at +25C to 1E-08 Accuracy
Supply Voltage (Vdd)	3.3/5VDC
Power Consumption	0.7W Max
Operating Temperature	0C to +60C

Storage Temperature -45C to 85C

Oscillator Specifications

Frequency Output 10MHz

10MHz Retrace $\pm 2E-08$ after 1 hour at 25C

Frequency Stability Over Temperature (Unlock $\pm 2.5E-08$ Condition)

Warm Up Time < 1 min at +25C

Phase Noise at 10MHz	1Hz	-75dBc/Hz
	10Hz	-110dBc/Hz
	100Hz	-132dBc/Hz
	1kHz	-142dBc/Hz
	10kHz	<-145dBc/Hz

Compatible Products



USRP X300

The Ettus Research USRP X300...

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USRP X310

The Ettus Research USRP X310...

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5-Volt Active GPS Antenna for USRP X300/X310 and B200/B210

This is a 5V active...

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Compatible Products



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