SUNTSU

Rubidium Oscillator

SRO30S

101.0mm x 37.0mm x 60.5mm

Features

- 10MHz Frequency
- ±0.3ppb Frequency Stability
- Sinewave

Applications

- Military Communication Equipment
- Base Stations
- Test Equipment
- Synthesizers
- Digital Switching

Part Number

RoHS COMPLIANT

SRO30S - 10.000M

Electrical Parameters		Units	Minimum	Typical	Maximum	Remarks
Frequency		MHz		10.0		
Frequency Tolerance at +25°C		ppb	-0.05		+0.05	
Frequency Stability		ppb	-0.3		+0.3	
Short Term Stability	1 second	ppb	-0.003		+0.003	
	10 Seconds	ppb	-0.003		+0.003	
	100 Seconds	ppb	-0.002		+0.002	
	1 hour	ppb	-0.001		+0.002	
Aging	Day	ppb	-0.003		+0.003	
	Month	ppb	-0.04		+0.04	
Magnetic Field Sensitivity (Gauss)		ppb	-0.02		+0.02	
Retrace		ppb	-0.02		+0.02	
Operating Temperature		°C	-40		60	
Storage Temperature		°C	-40		90	
Supply Voltage*		V		12.0		*Will operate over 12V to 15V Range
Power Consumption Start up @ 25°C		A			1.8	22W @ 12V
Power Consumption Steady State		A			0.5	6W @ 12V
Warm-up Time		Minutes		8		@ 25°C
Pulling		ppb	-2.0		+2.0	
Control Voltage		V		2.5		
Input Impedance		Ω	10k			
Output Compatibility				Sine		
Drive Capability		Ω		50		
Output Level		dBm	6	8	10	
Phase Noise	@ 1Hz	dBc/Hz		-113		
	@ 10Hz	dBc/Hz		-138		
	@100Hz	dBc/Hz		-152		
	@1kHz	dBc/Hz		-155		
	@10kHz	dBc/Hz		-158		
Harmonics		dBc			-30	
Spurious		dBc			-100	

Note : The oscillator will detect if no control voltage is applied to Pin 7 and will automatically set the control voltage internally to 2.5V.

Note: Rx and Tx connections for RS232 communication of the status of the oscillator.

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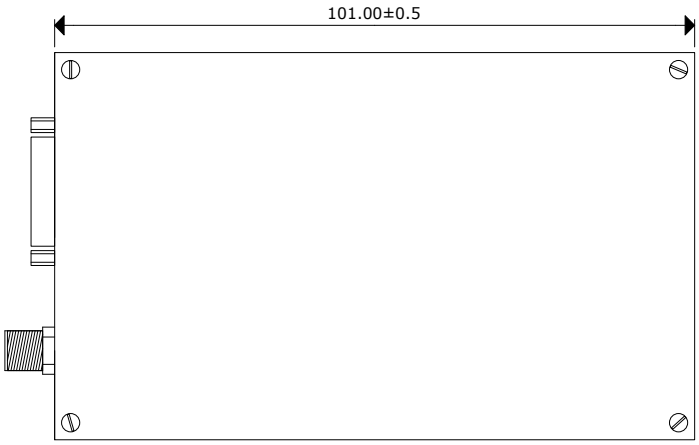
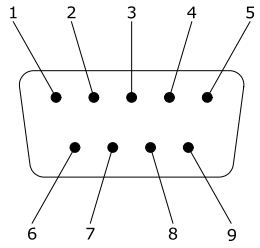
Outline Drawing

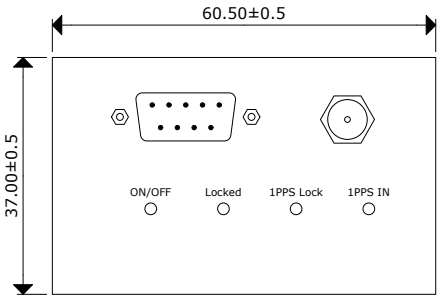
All dimensions are in millimeters (mm) unless otherwise noted. Drawings are not to scale.

Pin #	Function	Description
1	10MHz Lock Status	OFF: Locked, ON: Not Locked
2	RXD (PLL)	Serial data receive
3	TXD (PLL)	Serial data transmit
4	Power Supply	Input power supply between +12V
5	GND	Ground
6	1PPS Lock Status	1PPS DPLL - OFF: Locked, ON: Not locked
7	1PPS Output	1PPS Output
8	GND	Ground
9	1PPS Input	Phase lock to external 1PPS input

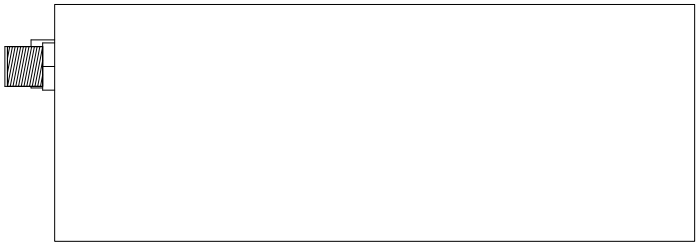


Top View



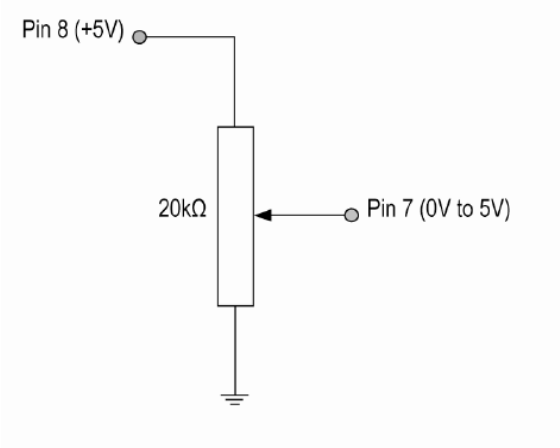


Front View

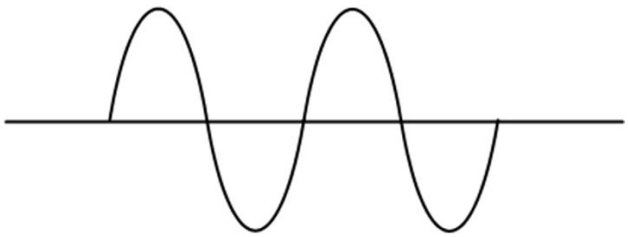


Side View

Test Circuit (Sinewave)



Waveform (Sinewave)



Sinewave Output, +7dBm mim. Into 50Ω

Specifications

Temperature Cycling	MIL-STD-883, Method 1010, Condition B	Mechanical Shock	IEC60068-2-27, Test Ea: Acceleration of 50G peak Amplitude for 11ms duration.
Atmospheric Pressure	-60M to 4000M: $1x10^{-13}$Mbar Max	Vibration	IEC 600068-2-06, Test Fc: 10Hz-55Hz 1.5mm
EMI	Compliant to FCC Part 15, Class B		

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