

M9101 Series

1.5 x 3.0 x 0.8 inches, GPSDO (Global Positioning Satellite Disciplined Oscillator)

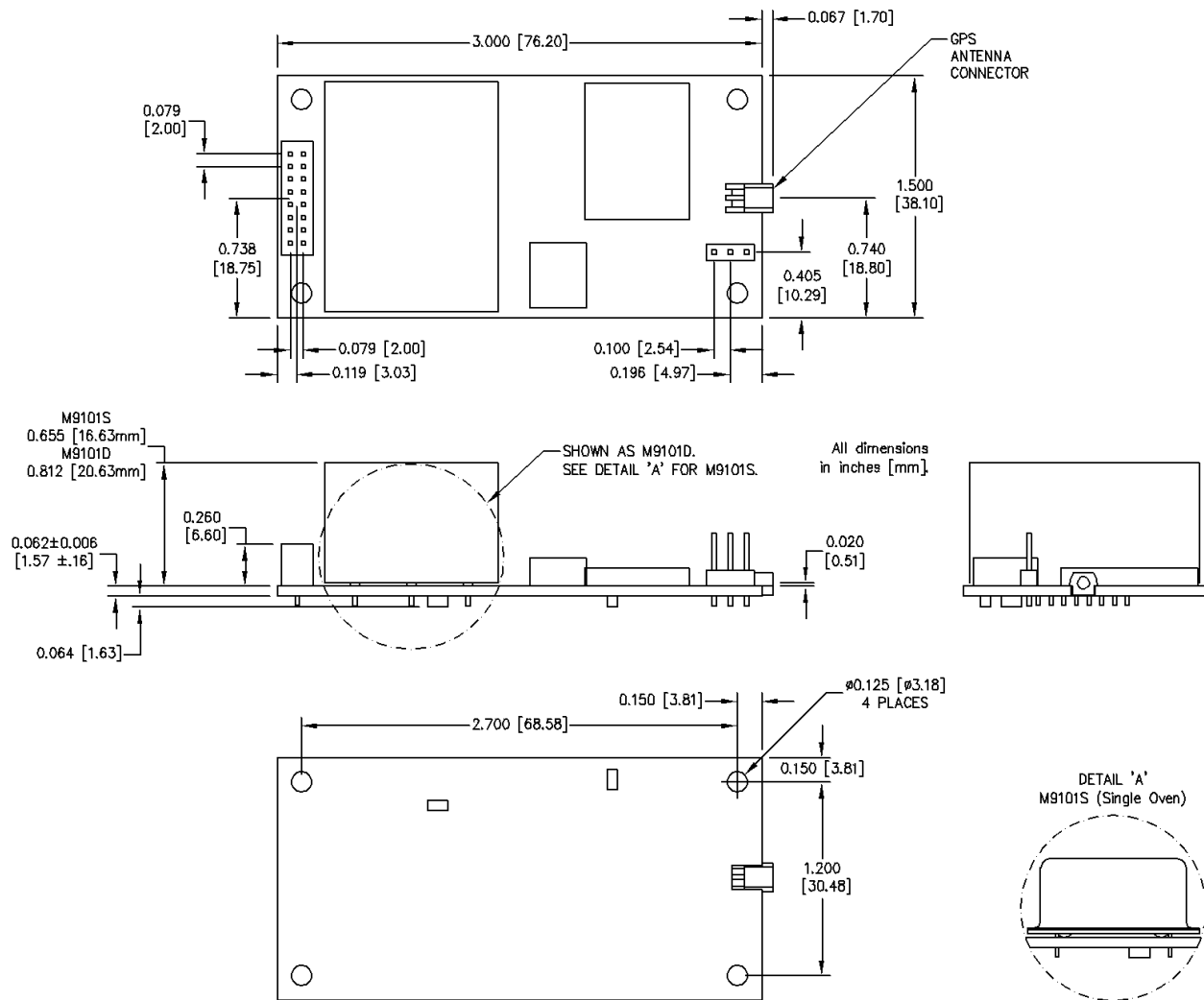


- M9101S (Single Oven)
- M9101D (Double Oven)
- 1.5 x 3.0 x 0.8 Inch Package
- Excellent Holdover Stability
- Ruggedized Military Low G-Sensitivity Option Available
- Applications: Master Clock & Receiver for CDMA, WiMAX & GSM Basestations, SATCOM, Precision Time Base Reference (1PPS), and Navigation Systems

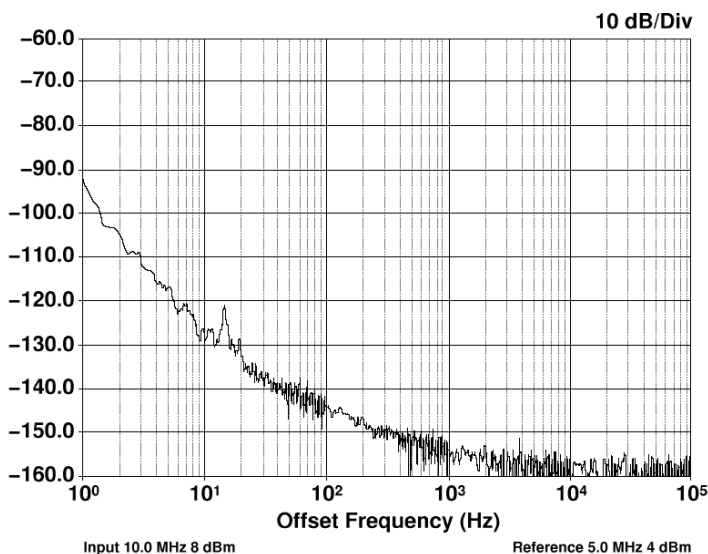
Module Specification (Typical):	M9101S (Single Oven Version)	M9101D (Double Oven Version)
1 PPS Accuracy	± 50 ns to UTC RMS (1-Sigma) GPS Locked	
Holdover Stability (After 3 day of lock to GPS)	< ± 50 μs over 24 hr. period @ +25°C	< ± 7 μs over 24 hr. period @ +25°C
1 PPS Output	LVDS compatible	
10 MHz Output	LVDS and HCMOS compatible	
RS-232 Control	RS-232 Levels. SCPI-99 Control Commands	
	1 PPS output level for Linux SNTP Server Software with D Sub RTS pin.	
GPS Frequency	L1, C/A 1574 MHz (Galileo supported when available)	
GPS Antenna	Active or Passive Type	
GPS Receiver	50 channels, Mobile, WAAS, EGNOS, MSAS, capable	
GPS Receiver Sensitivity	Acquisition -144 dBm, tracking -160 dBm	
TTFF	Cold Start: < 45 sec	
	Warm Start: 1 sec.	
	Hot Start: 1 sec	
ADEV	< 1 E -011/1 sec.	< 4 E -012/1 sec.
TTL Alarm Output	GPS Unlock and Hardware Failure Status	
OCXO Warm-Up Time/Stabilization Time	< 12 min. at +25°C for 1 E-09 accuracy.	
GPSDO Lock Time to <5E-010 accuracy	<1Hr	<30 min.
Supply Voltage	12.0 VDC ± 5%	
Power Consumption	< 2.5 W at 12 V and +25°C	< 4.0 W at 12 V and +25°C
Operating Temperature	0°C to +60°C	0°C to +75°C
Storage Temperature	-45°C to +85°C	
OCXO Specification:		
Output Frequency	10 MHz (Other frequencies 5-20 MHz available)	
Retrace	± 2 E-08 after 1 hr.	
Frequency Stability Over Operating Temperature	± 2.5 E -8 (Unlocked Condition)	± 2.5 E -10 (Unlocked Condition)
Output Amplitude	5 V HCMOS, LVDS ± 30 mV differential <i>(Refer to user manual for pin out information)</i>	
OCXO Retrace time	< 3Hrs	< 1Hr
Phase Noise	1 Hz -85 dBc/Hz	1 Hz -90 dBc/Hz
	10 Hz -115 dBc/Hz	10 Hz -120 dBc/Hz
	100 Hz -140 dBc/Hz	100 Hz -140 dBc/Hz
	1 kHz -150 dBc/Hz	1 kHz -150 dBc/Hz
	10 kHz -158 dBc/Hz	10 kHz -158 dBc/Hz
CONNECTIONS:		
1 PPS Output, 10 MHz Output, RS-232 Control	16 pin double row header with 2 mm pin spacing	

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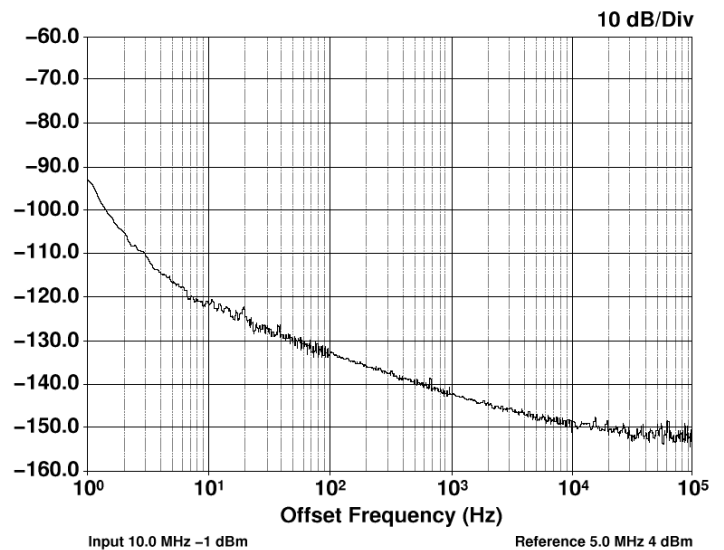
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Phase Noise Plot - M9101S (Single Oven)



Phase Noise Plot - M9101D (Double Oven)



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