

GT-11 Series

GPS Disciplined Oscillator (GPSDO)

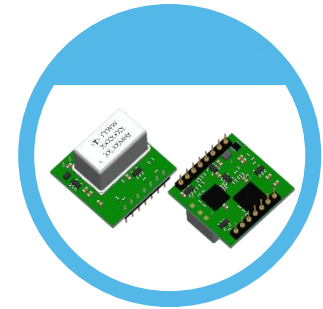
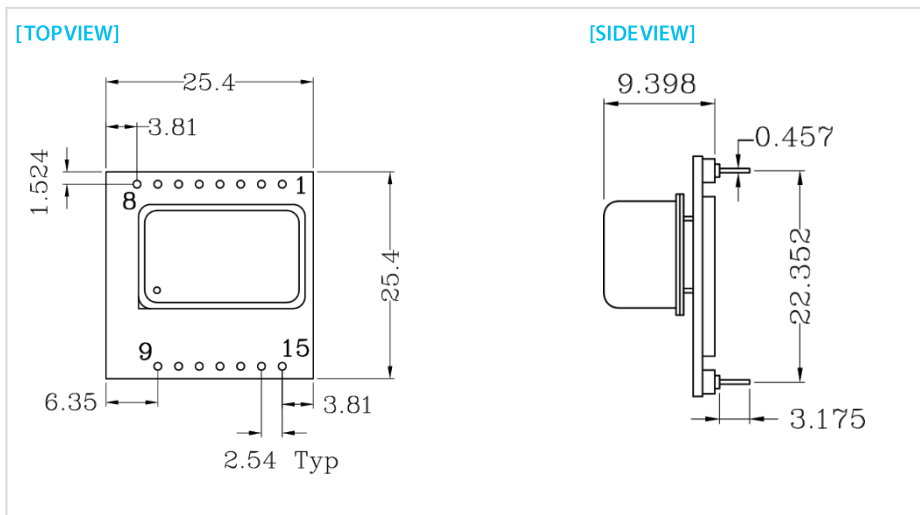
FEATURES

- Build-in GPS receiver module and provides +5.0V for Active Antenna
- Very low power consumption due to its high performance TCXO
- Unmatched price and performance over traditional GPS-OCXO reference solutions
- 10MHz CMOS output and 1pps CMOS output
- Enable external 1pps input for discipline
- Discipline to 75ns RMS in phase
- GPS NMEA output

TYPICAL APPLICATION

- Low Cost, Affordable Reference Clock
- Test and measurement equipment

DIMENSION (mm)



RoHS Compliant

PIN FUNCTION

PAD	FUNCTION	NOTE
1	Ground	
2	10 MHz Out	10 MHz CMOS Output
3	Lock OK	3.3V CMOS Output
4	1 PPS Output	3.3V CMOS Output
5	1 PPS Input	3.3V to 5.0V CMOS(Rising Edge)
6	+5V Output	< 100 ma
7	Ground	
8	+3.3V VDO In	
9	Ground	
10	Antenna Input	Module provides +5.0V Power Supply for Active Antenna
11	Ground	
12	NMEA Transmit	NEMA-0183 GGA format GPS data output
13	1PPS Input Enable	High: Internal PPS, Low: External PPS
14	N/C	No external Connection Allowed
15	N/C	No external Connection Allowed

ELECTRICAL SPECIFICATION

Parameter	10 MHz OUTPUT (via PIN 2)				Test Condition
	Min.	Typ.	Max.	Unit	
Frequency Output	10.000000				MHz
Output Amplitude	LVCMOS				
"1" level	+2.6			V	
"0" level			+0.4	V	
ADEV			0.005	ppb	5E-12 (Tau = 10Ks, GPS Locked, 25°C, no motion)

Parameter	1PPS Output (via PIN 4)				Test Condition
	Min.	Typ.	Max.	Unit	
Output Amplitude	LVCMOS				
1PPS Accuracy		75		ns	To UTC RMS (1-Sigma) GPS Locked
Load Impedance		10		MΩ//10pF	

Parameter	Supply Voltage (via PIN 8)				Test Condition
	Min.	Typ.	Max.	Unit	
Supply Voltage	+3.135	+3.3	+3.465	Vdc	
Power Consumption			600	mW	

Note: not all combination of options are available. Other specifications may be available upon request.
 Specifications subject to change without notice.

Parameter	External 1PPS Reference Input (via PIN 5)	Test Condition
	Reference Std.	
Input Amplitude	LVC MOS	Rising Edge
Input Impedance	10MΩ//10pF	

Parameter	GPS (via PIN 10)	Test Condition
	Reference Std.	
GPS Frequency	GPS : L1, C/A 1574MHz; BeiDou B1I 1561.098MHz	Factory default GPS & BeiDou, SBAS, OZSS
Receiver Sensitivity	Acquisition -148 dBm; Tracking -164dBm	
Antenna	Active	Active antenna – GPS, GLONASS, BeiDou bands. Module provides +5.0V Power Supply for Active Antenna

Parameter	Interface (via PIN 12)	Test Condition
	Reference Std.	
Serial Control	GPS NMEA Output	NMEA-0183 GGA Format GPS Data Output Baud rate 38400

Parameter	Environmental	Test Condition
	Reference Std.	
Operating Temperature	0°C to +60°C	NMEA-0183 GGA Format GPS Data Output Baud rate 38400
Storage Temperature	-45°C to +85°C	
Mechanical Shock	JESD22-B104	
Vibration	JESD22-B103	
Solderability	IPC J-STD-002	
Thermal Shock	MIL-STD-883 Methode 1011, Condition A	

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