

Titan X1

GPS/Glonass Module with Antenna

Track with GlobalTop

Quality

Innovation

Customization

Longevity

Product Features

Receiver Type	MT3333 Engine			
Frequency Bands	GPS L1, GLONASS L1, QZSS L1, BEIDOU B1, GALILEO E1, SBAS L1			
Channels	Acquisition	Tracking	PRN	
	99	33	210	
DGPS (SBAS)	USA	EU	Japan	India
	WAAS	EGNOS	MSAS	GAGAN
Positioning Accuracy	Typical	<3.0m		
	SBAS	<2.5m		
	RTCM	TBA		
Velocity Accuracy	0.05 m/s (with SBAS) 0.10 m/s (without SBAS)			
Timing Accuracy (1PPS)	±10 ns RMS (100 ms pulse-width)			
Maximum Altitude	80000 m (Default : 10000 m)			
Maximum Velocity	515 m/s (1000 Knots)			
Maximum Acceleration	4G			
Anti-Jamming	Active CW detection and removal, 12 multi-tone interference canceler			
AGPS	EPO in flash™, 7 or 14 days ephemeris			
EASY™	Self-generated orbit prediction			
AlwaysLocate™	Intelligent periodic mode algorithm			
LOCUS™	Internal data logger, up to 16 hours at 15s intervals (default setting)			
Built-In Components	TCXO, RTC Crystal, Additional LNA, SMPS, SAW Filter, Embedded Flash, Ex-Ant Circuit			
Embedded Antenna	12 x 12 mm GPS/Glonass Patch			
External Antenna	Active only			

Sensitivity

TTFF (time-to-first-fix)	With EASY™	Without EASY™
Hot Start	1 Second	1 Second
Warm Start	5 Seconds	33 Seconds
Cold Start	15 Seconds	35 Seconds

Sensitivity	
Tracking	-165 dBm
Acquisition	-148 dBm (Cold Start)
Re-acquisition	-163 dBm (Hot Start)

Interfaces

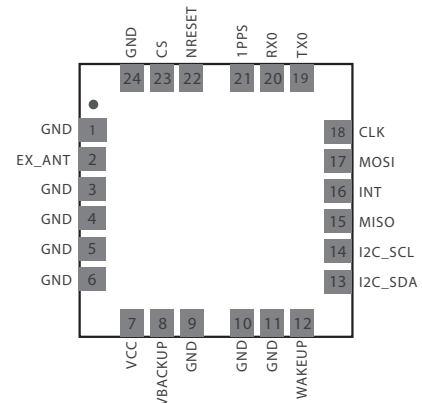
Serial Interfaces	UART, SPI, I ² C, RTCM
Max. Baud Rate	115200 bps (Default : 9600 bps)
Max. Update Rate	10 Hz (Default : 1 Hz)
Digital I/O	1 PPS
Protocols	NMEA Standard NMEA Secure (binary, ASCII)

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Dimensions

24-PAD QFN Package	12.5 x 12.5 x 6.8 mm
Weight	< 4 g
Pinout	



Electrical Data

Supply Voltage	3.0V to 4.3V (Typical 3.3V)		
Backup Supply	2.0V to 4.3V (Typical 3.0V)		
Power Consumption	Min	Typical	Max
Acquisition	20 mA	27 mA	30 mA
Power Tracking	20 mA	25 mA	35 mA
(GLP)Low-Power Tracking	TBA	TBA	TBA
Power Saving (Periodic)			
Backup Mode	1.2 mA (Typical)		
Standby Mode	1.5 mA (Typical)		

Environmental Data and Approvals

Operation Temperature	-40°C to 85°C
Storage Temperature	-40°C to 85°C
Approvals & Compliance	CE, FCC, ROHS, REACH, E911
Manufactured at ISO 9001:2008, ISO/TS 16949 certified facility	

Free Firmware Customization

Basic Functions	Advanced Functions
Default Baud-Rate	NMEA Secure (ASCII, Binary)
NMEA Sentence Interval	Custom NMEA Output
Datum (222 Selections)	Last Position Retention
DGPS Mode	Magnetic Variation
Update Rate	Geo-fencing
Data digits after decimal	Distance Calculation
3D Fix Settings	Navigation Mode
1PPS Duration, Output	Advanced Altitude
Interference Canceler	Data Logger Customization



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