

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

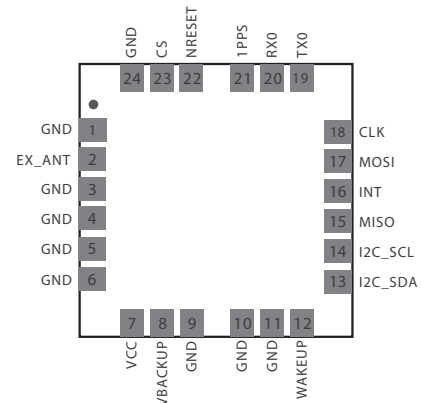
| | |
|-------------------|--|
| Serial Interfaces | UART, SPI, I ² C, RTCM |
| Max. Baud Rate | 115200 bps (Default : 9600 bps) |
| Max. Update Rate | 10 Hz (Default : 1 Hz) |
| Digital I/O | 1 PPS |
| Protocols | NMEA Standard NMEA Secure (binary, ASCII) |

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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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