

IT530

Fastrax miniature GPS module

Highlights

- Ultra low power, 35 mW @ 3.3 V
- Extremely small form factor
- Power saving modes
- Superior sensitivity
- Self-assistance for 3 days
- Up to 10 Hz navigation rate



IT530:
9.6 x 9.6 x 1.85 mm

Product description

The IT530 is characterized by a small footprint, low power consumption, and sophisticated interference suppression, ensuring maximum performance even in GPS-hostile environments. This makes incorporating IT530 into customer designs simple and straight forward.

IT530 supports autonomous A-GPS, allowing a reduction of the warm start TTFF by as much as 90%. It features an embedded data logger, which can store location information to internal Flash memory for up to 16 hours at the predetermined interval of 15 seconds.

Wireless and portable consumer products are packed with spurious signal emitting electronics often located close to the embedded GPS antenna, which may cause GPS performance issues. The IT530 overcomes this constraint by removing Carrier Wave type EMI sources by using Active Interference Cancellation (AIC). This feature can be used as a fix in the end product until the jamming issues are resolved.

Product selector

| Model | Type | Supply | Interfaces | Features |
|-------|---|---|---|---|
| | GPS QZSS GLONASS Timing Dead Reckoning Precise Point Positioning | 3.0 V – 4.3 V 1.65 V – 3.6 V Lowest power (DC/DC) | UART USB SPI DDC (I2C compliant) | Programmable (Flash) Data logger Extra front-end LNA Front-end SAW filter Oscillator RTC crystal Antenna supply Antenna short circuit detection / protection Antenna open circuit detection pin Timepulse External interrupt / Wakeup |
| IT530 | • • | • • | • | • • • T • • • • |

C = Crystal / T = TCXO

Features

| | | |
|------------------------|---|-----------|
| Receiver type | MT3339 engine GPS L1 C/A, QZSS L1 C/A SBAS: WAAS, EGNOS, MSAS | |
| Navigation update rate | up to 10 Hz | |
| Accuracy | Position | 2.5 m CEP |
| | SBAS | 2.0 m CEP |
| Acquisition | Cold start: | 31 s |
| | Warm start: | 31 s |
| | Hot start: | 1 s |
| Sensitivity | Tracking: | -165 dBm |
| | Cold start: | -148 dBm |
| Assistance | Autonomous | |
| Data logging | Up to 16 hours at 15 s intervals | |
| Oscillator | TCXO | |
| RTC crystal | Built-In | |
| Anti jamming | Active CW detection and removal | |
| Memory | Flash | |
| Supported antennas | Active antenna suggested | |

Electrical data

| | |
|---------------------------|-----------------------------|
| Supply voltage | 3.0 V to 4.3 ¹ V |
| Power consumption | 35 mW @ 3.3 V (Continuous) |
| Backup supply | 2.0 V to 4.3 ¹ V |
| Antenna bias supply input | 0 V to 5.5 V |

¹ For future-proof designs, u-blox recommends a 3.6 V maximum.

Interfaces

| | |
|-------------------|------------------------------------|
| Serial interfaces | 2 UART |
| Digital I/O | TIMER UI_FIX WAKEUP (ANT_ON) |
| Timepulse | 1 Hz |
| Protocols | NMEA, RTCM |

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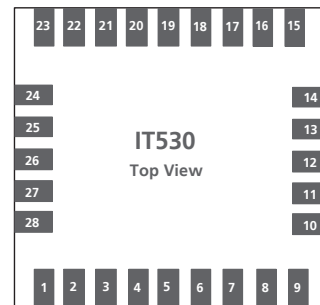
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Objective Specification

Package

28 pin LCC (Leadless Chip Carrier): 9.6 x 9.6 x 1.85 mm, 0.4 g

Pinout



Environmental data, quality & reliability

| | |
|----------------------------|-----------------|
| Operating temp. | -40° C to 85° C |
| Storage temp. | -40° C to 85° C |
| RoHS compliant (lead-free) | |

Ordering information

| | |
|---------|---|
| IT530-0 | Fastrax GPS Module, Flash, TCXO, SAW, 9.6 x 9.6mm, 500 pcs/reel |
|---------|---|

Available as samples and tape on reel

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