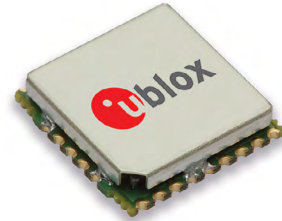


IT530M

Fastrax GPS/GNSS module

Highlights

- Multi-GNSS engine for combined GPS, GLONASS and QZSS
- Extremely small form factor and low power consumption
- Easy migration from IT530



IT530M:
9.6 x 9.6 x 1.85 mm

Product description

The IT530M is u-blox' newest multi-GNSS receiver module, adding GLONASS reception to Fastrax' industry proven IT530 form factor. By utilizing GPS and GLONASS satellites in parallel, IT530M can enhance the position availability in harsh GNSS satellite visibility conditions or at high latitudes, e.g. in the polar regions of Russia. It is characterized by a small footprint, low power consumption, and sophisticated interference suppression, ensuring maximum performance even in GPS-hostile environments. This makes incorporating IT530M into customer designs simple and straight forward.

IT530M supports online and offline 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.

IT530M targets industrial and consumer applications that require parallel GPS/GLONASS reception. IT530M is pin and software compatible to Fastrax' IT530 module, allowing the upgrade of existing designs with minimal effort.

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
IT530M	• • •	•	•	• • • T • • • •

C = Crystal / T = TCXO

Features

Receiver type	MT3333 engine GPS L1 C/A, GLONASS L1 FDMA, 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:	29 s
	Warm start:	23 s
	Hot start:	1 s
Sensitivity	Tracking:	-165 dBm
	Cold start:	-148 dBm
Assistance	Online and offline	
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 and passive	

Electrical data

Supply voltage	3.0 V to 4.3 ¹ V
Power consumption	57 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	FORCE_ON WAKEUP output (ANT_ON)
Timepulse	1 Hz
Protocols	NMEA, RTCM

Legal Notice

u-blox reserves all rights to this document and the information contained herein. Products, names, logos and designs described herein may in whole or in part be subject to intellectual property rights. Reproduction, use, modification or disclosure to third parties of this document or any part thereof without the express permission of u-blox is strictly prohibited.

The information contained herein is provided "as is". No warranty of any kind, either express or implied, is made in relation to the accuracy, reliability, fitness for a particular purpose or content of this document. This document may be revised by u-blox at any time. For most recent documents, please visit www.u-blox.com.

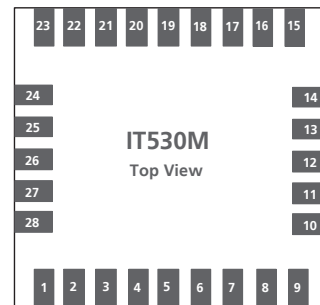
Copyright © 2012, u-blox AG

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

IT530M-0 Fastrax GPS/GNSS Module, Flash, TCXO, SAW, 9.6 x 9.6mm, 500 pcs/reel

Available as samples and tape on reel

Contact us

HQ Switzerland
+41 44 722 7444
info@u-blox.com

EMEA
+41 44 722 7444
info@u-blox.com

Americas
+1 703 483 3180
info_us@u-blox.com

APAC – Singapore
+65 6734 3811
info_ap@u-blox.com

China
+86 10 68 133 545
info_cn@u-blox.com

Japan
+81 3 5775 3850
info_jp@u-blox.com

Korea
+82 2 542 0861
info_kr@u-blox.com

Taiwan
+886 2 2657 1090
info_tw@u-blox.com