smart positioning

Fastrax IT530

OEM GPS Receiver Module

- Extremely Tiny Form Factor
- Ultra Low Power 35 mW
- Power Saving Modes like AlwaysLocate™ 3 mW typ.
- Superior Sensitivity
- Self-Assisted for 3 days by EASY™
- Up to 10 Hz Navigation Rate

IT530 Key Features:

- Extremely tiny form factor 9.6 x 9.6 x 1.85 mm
- Ultra Low Power consumption: 35 mW @ 3.3 V
- Low power modes including AlwaysLocate™
  - Only 3 mW average power (typ.)
- Superior Sensitivity
  - –148 dBm (Cold Start Acquisition)
  - –165 dBm (Navigation)
- Up to 10 Hz Navigation Rate
- Host port UART, NMEA protocol
- Secondary UART for RTCM
- DGPS support with RTCM & SBAS
  - WAAS/EGNOS/MSAS/GAGAN/QZSS
- Self-Assisted for 3 days by EASY™
- Server Assisted for 7/14 days by EPO™
- Jammer Remover AIC
- Embedded logger LOCUS
- 1PPS output
- Direct supply connectivity to Lithium Battery

Achieving Continuous Location and Low Power

Convenient use of location aware applications in digital cameras, mobile phones and other battery driven applications previously required keeping the GPS active at all times, leading to increased battery consumption.

With its new AlwaysLocate™ mode, Fastrax IT530 autonomously activates periodically to provide location information and consumes typically only 3 mW average power depending on moving scenario. As a result, updated location information is optimized vs. receiver movement without compromising battery life.

Self-Assisted by EASY™

The Fastrax IT530 offers also a solution to reduce warm start TTFF by 90% with Embedded Assist System (EASY™), which is derived internally from broadcast ephemeris data and which allows fast Time to Fix 3 sec typ. over 3 days. Also Server Assisted EPO™ file transfer is supported, which can extend external assistance up to 14 days.

On-board high efficiency regulator

The Fastrax IT530 has internal high-efficiency switching regulator which makes it possible to achieve ultra low power drain.

Embedded Jammer Remover

Wireless and portable consumer electronics products are packed with a dense collection of fast CPU, memory bus, displays, radio transmitters and other spurious signal sources, often times located very close to the embedded GPS antenna that may pick up man made spurious signals causing GPS performance issues.

Fastrax IT530 overcomes this constraint by removing up to 12 CW (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 revised.

Embedded logger LOCUS

The Fastrax IT530 has support for embedded logger function called LOCUS, which can store location information to internal flash memory at predetermined interval (default 15 sec) up to 16 hours. The host may later on dump and parse location information from the log via host port.

Low Count of External Components

The Fastrax IT530 supports direct power supply connection to a Lithium Battery due to extended input voltage range +3.0… 4.3 V that allows to omit external regulator.

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IT530 GPS Receiver Module				
Specifications				
General:	L1 frequency, C/A code (SPS)		I/O levels:	2.8V, inputs 3.6V tolerable
	66/22 channels		I/O ports:	28 contact LGA, castellated
Update rate:	1 fix/s (configurable up to 10 Hz)			Host port: UART
Accuracy *(note 1)*:	Position:	3.0 m (67%)		Secondary UART for RTCM
	Velocity:	0.02 m/s (50%)		1PPS output
	Time:	1 us (typ.)		Antenna bias supply input
TTFF *(note 1):*	Cold Start (out of the box):	31 s typ.		Interupt input for Wakeup
	Warm Start	31 s typ.	Protocol:	NMEA 0183 rev. 3.01
	Hot start:	1 s typ.	Baud rate:	9600 baud (configurable)
Sensitivity *(note 2):*	Acqusition (cold):	-148 dBm	Chip set:	Mediatek MT3339
	Re-Acquisition:	-160 dBm	Dimensions:	9.6 x 9.6 x 1.85 mm
	Tracking/Navigation:	-165 dBm	Weight:	0.4 g
Power Drain (3.3V):	Navigating *(note 3):*	35 mW typ.	Operating temperature:	-40C..+85°C *(note 4)*
	Backup state:	15 uW typ.	Storage temperature:	-40C..+85°C
Operating voltage:	Main Supply VDD:	+3.0... +4.3 V	FW Options:	
	Back Up Supply:	+2.0... +4.3 V		

Notes:

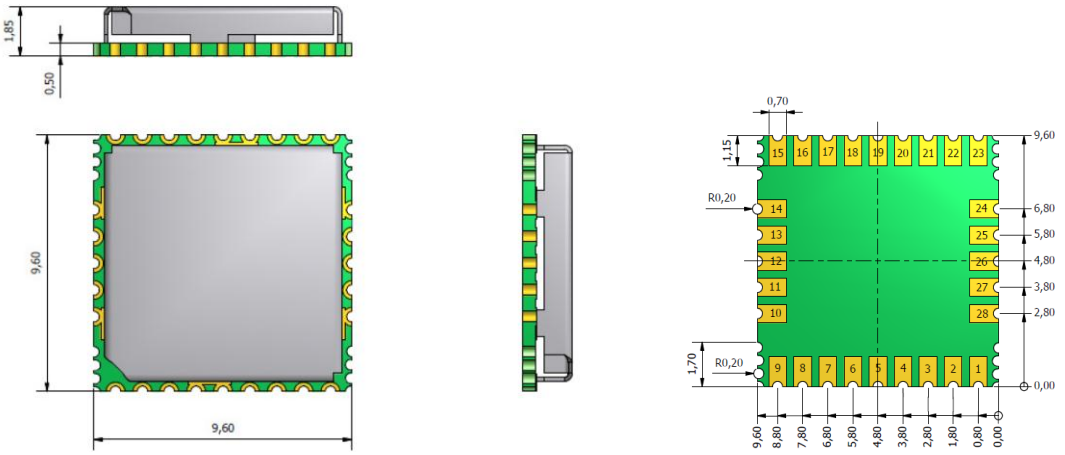
(1) With nominal signal levels -130 dBm

(2) Measured with external LNA or active antenna NF≤1 dB, G≥15 dB

(3) 1 Hz fix rate, ≤12 SV in track, DGPS/SBAS disabled, average over 24 h

(4) At -40… -30°C TTFF and GPS performance may reduce

Dimensions and pin out:



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