



iTrax300

OEM GPS Receiver Module

- iTrax MP Compatible receiver
- Ultra High Sensitivity with SiRFStarIII
- Market leading Navigation Performance
- Extremely Fast TTFF



OEM receiver for many Applications

Fastrax iTrax300 OEM GPS receiver module enables high performance navigation in the most stringent applications and solid fix even in harsh GPS visibility environments.

The iTrax300 receivers are ideally suited for both industrial tracking and navigation systems and battery operated consumer products like sports accessories, handheld computers, asset tracking devices, vehicle navigation devices and mobile phones.

The iTrax300 receiver is pin compatible with iTrax MP (Multiplatform) family of receivers to ensure optimized solution for various needs.

Market Leading System Performance

Extremely fast TTFF enables fast re-acquisitions in harsh urban canyon or blocking environments. It also enables low power consumption in special power management operating modes.

User configurable power management makes iTrax300 one of the lowest power consuming, complete 20-channel OEM GPS receivers on the market. The Adaptive TricklePower™ mode enables low power consumption but which adapts itself to weak signal conditions with full power acquisition and tracking.

iTrax300 Key Features:

- iTrax MP compatible
- SiRFStarIII chip set
- Tiny form factor – 16.2mm x 18.8mm x 2.3mm
- Low power consumption: 170mW @ 3.0V
- Ultra High Sensitivity –157 dBm (Tracking)
- NMEA & SiRF binary protocols
- Two serial ports
- 1PPS output
- GPIO available for custom purposes
- WAAS/EGNOS/MSAS support

The Push-to-Fix™ mode keeps the GPS time and satellite data valid allowing fast navigation fix on demand.

Cutting component costs

Space and costs are reduced due to the cutting-edge technology in the iTrax300 receivers. The surface mount SMD design eliminates need for expensive and labor intensive system and RF connectors. Very few additional components are required.

Quick Start with Easy-To-Deploy Solution

The addition of an antenna and power supply is all that is required to make the iTrax300 operational. The module supports also dedicated control inputs for external control for the operating state. The Fastrax Engineering Services team can provide antenna design application notes to aid in further refinement of the antenna design for specific applications.



iTrax300

Specifications

General: L1 frequency, C/A code (SPS)
 20 independent tracking channels
 Separate search and acquisition engine

Update rate: 1 fix/s (user configurable)

Accuracy: Position: 1.5 m (CEP50)
 1.8 m (CEP95)
 Velocity: 0.1m/s
 Time: +/-1µs

TTF: Cold Start (out of the box): 40s typ.
 Warm Start 30s typ.
 Hot start: 2s typ.

Sensitivity: Acquisition (cold): -142dBm
 Navigation: -155dBm
 Tracking: -157dBm

Power Drain (3.0V):
 Navigating 1 fix/s: 170mW typ.
 Stand-by state: 3mW typ.
 Hibernate state: 45 µW typ.

Operating voltage:
 Main Supply: +3.0V..3.3V
 Back up Supply: +2.5V..3.3V

Operating temperature: -40C..+85C

Storage temperature: -40C..+85C

I/O ports: 30 contact LGA
 Two asynchronous serial ports
 1PPS output
 8xGPIO (one interrupt capable)

Protocol: NMEA 0183
 SiRF Binary Protocol

Dimensions: 16.2mm x 18.8mm x 2.3mm (2.5 max)

Weight: 1.6 g

Antenna Input: LGA pad, 50ohm

Antenna bias:+2.75V

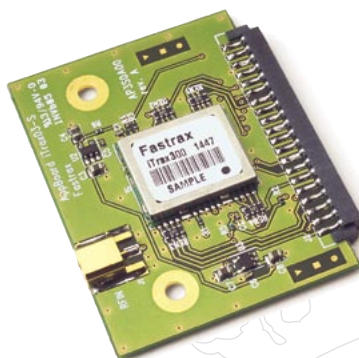
Chipset: SiRF GSC3

SW Features: Adaptive TricklePower

Push-to-Fix

Extremely fast TTF

Application board:



1 - ON_OFF		1PPS - 30
2 - BOOT		GPIO8 - 29
3 - GPIO14		VDD - 28
4 - GPIO2		GPIO10 - 27
5 - GND		GND - 26
6 - GPIO15		GND - 25
7 - GPIO4		RF - 24
8 - WAKEUP		GND - 23
9 - XRESET	ITRAX300	GND - 22
10 - NC		NC - 21
11 - GND		GND - 20
12 - GPIO13		RXDB - 19
13 - GPIO1		RXDA - 18
14 - VDD_BACKUP		TXDA - 17
15 - GND		TXDB - 16