iTrax130

OEM GPS Receiver Module

- **iTrax MP Compatible receiver**
- **Compact design**
- **High performance, Cost effective design**
- **Full support for iSuite™ 3 SDK**

New family of receivers

iTrax130 expands Fastrax' product offering in the family of GPS receivers based on SONY CXD2985 single chip GPS receiver LSI. It is pin-compatible with iTrax MP (Multiplatform) family of receivers.

The iTrax130 is an ultra small SMD Macro Component. It is a versatile OEM GPS receiver for applications that require firmware upgradeability. It is suitable for integrated GPS applications where high performance and low cost are key issues.

iTrax130 offers full support for iSuite™ 3 SDK environment. See iTrax130 Development Kit manual for details about free SDK resources.

High performance receiver architecture

It is based on the SONY single chip GPS receiver device with 8MBit external Flash. In addition a two stage LNA, TCXO and RTC are included. Necessary on board regulators are also included for ease of use. Typical Cold Start TTFF is 39s.

Versatile interface

The iTrax130 is very easy to use. The user needs only to connect the power supplies (main supply and battery backup supply) to make it functional. Low power mode is simply achieved by removing the main power supply at any time. The receiver will resume normal operation once the main power supply is reconnected.

iTrax130 Key Features:

- Tiny form factor - 16.2mm x 18.8mm x 2.3mm
- Low power consumption - 150mW @ 3.0V
- Very High Sensitivity -154 dBm (Tracking)
- iTalk and NMEA0183 protocols
- Kalman Navigation
- Supports remote firmware updating
- Data-logger, up to 80.000 data points (Lat/Lon)
- A-GPS support
- Versatile interface ports
- Accurate 1PPS timing output
- Supported by iSuite™ 3 SDK Software Development Kit
- WAAS/EGNOS/MSAS support

iTrax130 - Versatile Programmability

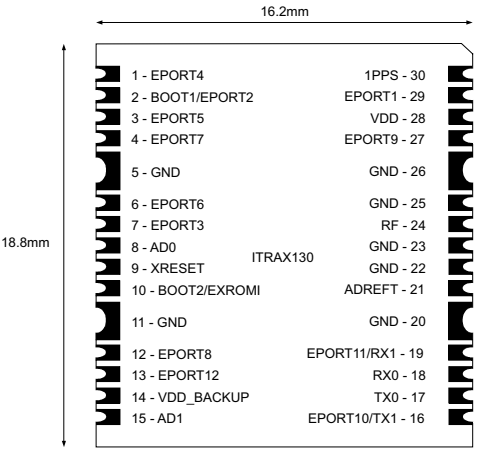
The iTrax130 features a 8MBit Flash memory, which allows remote firmware updates, permanent operation parameter changes via NMEA or iTalk 3 and data logging as a standard feature. iTrax130 supports versatile programmability with iSuite 3 SDK, which results to reduced application costs when no external processor is required and when the iTrax130 is used as a host controller. With fewer components, cost and application size are reduced.

Specifications

iTrax130

General:	L1 frequency, C/A code (SPS)	
	12 independent tracking channels	
	Separate search and acquisition engine	
Update rate:	1 fix/s (user configurable up to 3Hz)	
Accuracy:	Position:	1.5 m (CEP50)
		1.8 m (CEP95)
	Velocity:	0.1 m/s
	Time:	20 ns RMS
TTFF:	Cold Start:	39s
	Hot start:	4s
Sensitivity:	Acqusition (unaided):	-139dBm
	Tracking:	-154dBm
	Navigation:	-151dBm
Power Drain (3.0V):		
	Acquisition:	250 mW
	Navigation:	150mW
	Battery backup	45µW

I/O ports: Two asynchronous UART data ports
12-bit GPIO
10-bit A/D, 2 channel + Reference voltage



SBAS support: WAAS/EGNOS/MSAS

Update rate: 1 fix/s default, up to 3 fix/s

Protocol: NMEA 0183 ver 3.0 (Port 0 by default)
iTalk 3 (Port 1 by default)

Dimensions: 16.2mm x 18.8mm x 2.3mm

Height: 2.3mm nominal, 2.5mm max

Weight: 1.6g

Operating voltage:
3.0V ... 3.6V (main supply)
3.0V ... 3.6V (battery backup)

Operating temperature: -40C..+85C

Storage temperature: -40C...+85C

Antenna: External, passive or active

Antenna input: LGA pad, 50ohm

Antenna Bias: Same as RF supply

GPS Receiver IC: Sony CXD2985 Single Chip LSI

Flash Memory: 8MBit

Software Features: iSuite™ 3 Firmware
Kalman Navigation
Reprogramming on the fly
Advanced Multipath Mitigation
Advanced Cross Correlation Mitigation
Data-logger
A-GPS Support
WAAS / EGNOS Support
Automatic interval mode

Application board: