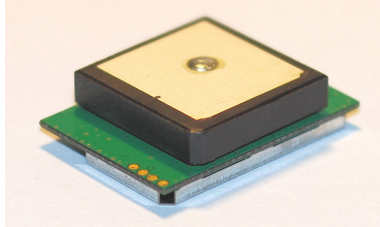


smart
positioning



Fastrax UP300

OEM GPS Antenna Module

- **Embedded GPS antenna**
- **External antenna connector**
- **High Sensitivity with SiRFstarIII**
- **Very Low Power with SiRF GSC3f/LPx**

OEM receiver for many Applications

Fastrax UP300 OEM GPS receiver module with embedded GPS antenna enables high performance navigation in the most stringent applications and solid fix even in harsh GPS visibility environments.

The UP300 receiver with embedded antenna is ideally suited for both navigation systems and battery operated consumer products like mobile phones, personal navigation devices, handheld computers and sports accessories. External GPS antenna connector with automatic antenna sense allows the UP300 to be used in various GPS applications.

Market Leading 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 UP300 one of the lowest power consuming, complete 20-channel OEM GPS receivers on the market. E.g. the SiRF Adaptive TricklePower™ mode enables low power consumption but which adapts itself to weak signal conditions with full power acquisition and tracking.

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

Fastrax UP300 Key Features:

- Tiny form factor – 19x27x7.2 mm
- Embedded patch antenna 18x18x4 mm
- External GPS antenna connector, automatic switching and bias supervisor
- Very Low Power: 81 mW @ 3.0 V
- High Tracking Sensitivity –159 dBm
- High Cold/Warm start sensitivity -146 dBm
- NMEA & SiRF binary protocols
- One serial port
- 1PPS output
- Control input for re-programming
- SiRFstarIII chip GSC3f/LPx

Cutting component costs

Space and costs are reduced due to the cutting-edge technology in the UP300 receiver. The embedded GPS antenna simplifies the design and it still allows flexibility with external GPS antenna connectivity.

Quick Start with Easy-To-Deploy Solution

The power supply and serial data is all that is required to make the UP300 operational. The module supports also dedicated control commands for external control for the operating state.

External antenna supervisor

Antenna connector allows external active antenna usage with automatic switching from embedded antenna to external antenna signal based on antenna bias current sense (>1.5mA typ.). The antenna connector switching circuit includes also a short circuit protection and an antenna bias supervisor, which forces switching back to embedded antenna signal in case of external antenna short circuit.

 **Fastrax**



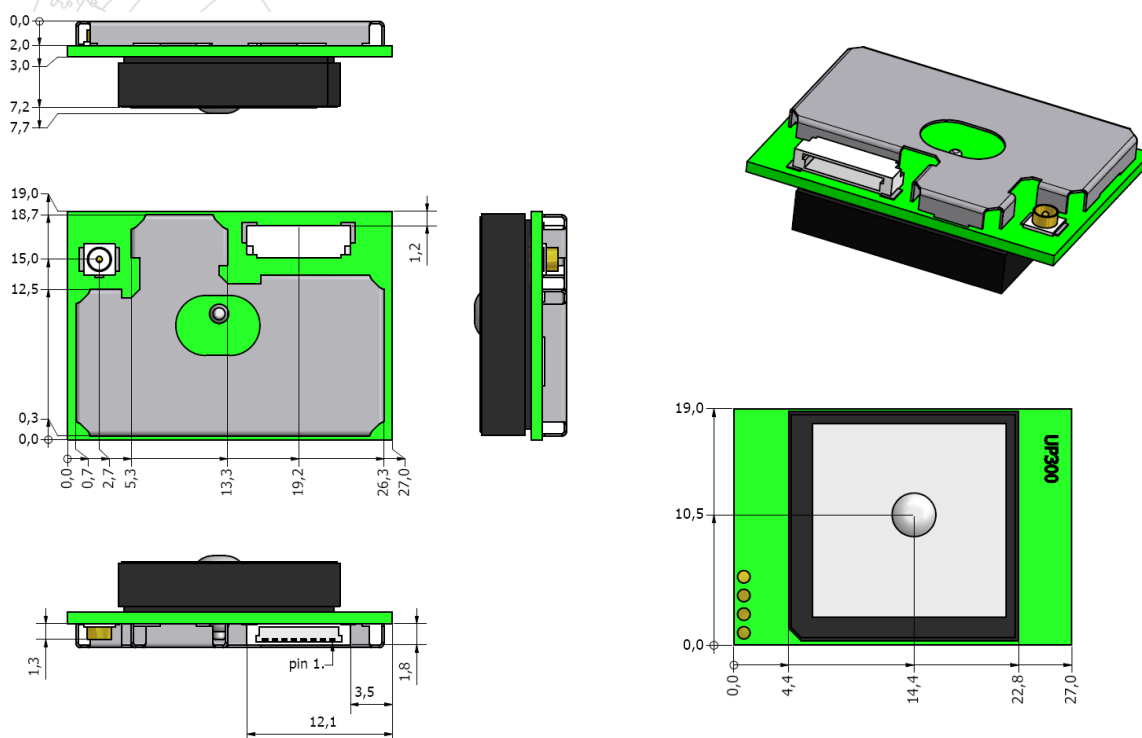
Fastrax UP300

Specifications			
General:	L1 frequency, C/A code (SPS)		IF Connector: 8-pin JST SM08B-SURS-TF
	20 independent tracking channels		I/O ports: Asynchronous serial Port A
	Separate search and acquisition engine		Main & Back-up supply
Update rate:	1 fix/s (user configurable)		1PPS output
Accuracy:	Position:	1.8 m (CEP95) (1)	RESET input
	Velocity:	0.1 m/s	UPDATE input (re-programming)
	Time:	+/-1 us	Protocol: NMEA 0183, 9600 baud
TTFF:	Cold Start (out of the box):	32 s typ.	(switchable to SiRF Binary Protocol)
	Warm Start	32 s typ.	Dimensions: 19x27x7.2 mm (8.0 mm max)
	Hot start:	1 s typ.	Weight: 9 g
Sensitivity:	Acquisition (cold/warm):	-146 dBm (1)	Antenna Input: Hirose U.FL-R-SMT(01)
	Tracking:	-159 dBm (1)	Antenna bias: same as Main Supply
Power Drain (3.0V):	Navigating 1 fix/s:	81 mW typ.	Antenna sense: >1.5 mA antenna bias current (typ.)
	Stand-by state:	3 mW typ.	Chip set: SiRFstar III (GSC3f/LPx)
	Back up state:	18 uW typ.	
Operating voltage:	Main Supply:	+3.0..3.6 V	SW Features: Adaptive TricklePower(TM) (3)
	Back up Supply:	+1.5..3.6 V	Push-to-Fix(TM) (3)
Operating temperature:	-30...+85 C (2)		Extremely fast TTFF
Storage temperature:	-40...+85 C		HW Features: Antenna bias supervisor

Notes:

- 1) At external antenna connector with external LNA having NF<1.5dB, G>15dB
- 2) Operation allowed also at -40°C...-30°C but GPS performance may decrease
- 3) TricklePower(TM) and Push-to-Fix(TM) are trademarks of SiRF Technology, Inc.

Dimensions:



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