

A-380T

SiRF Star III GPS module



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Ultra Low Power Superior Sensitivity GPS Module

GENERAL DESCRIPTION

The GPS module (patch on top) is a high sensitivity, ultra low power consumption; compact size GPS module designed for a broad spectrum of OEM system applications. This product is based on the SiRF Star III low power chipset solution. It tracks up to 20 satellites at a time while providing fast time-to-first-fix and 1Hz navigation updates. Its far-reaching capability meets the sensitivity and accuracy requirements of car navigation as well as other location-based applications, such as AVL system, handheld navigator, PDA, pocket PC, or any battery operated navigation system.

The module design utilizes the latest surface mount technology and high level circuit integration to achieve superior performance while minimizing dimensions and power consumption. This hardware capability combined with software intelligence makes the board easy to be integrated and used in all kinds of navigation applications or products.

MAIN FEATURES

- Built-in high performance SiRF Star III chipset
- Superior sensitivity: -159dBm tracking
- Cold/Warm/Hot start time: 42/38/1 sec. (average)
- Ultra Low power consumption (40mA typ. @3.3V)
- 20 channels "All-in-View" tracking

- Compact board size: 31.0x26.0x4.0mm (wafer connector not included)
- Support standard NMEA-0183
- Reacquisition time: 0.1 sec.
- Ceramic patch antenna (2mm) on top
- Support patch antenna only

TECHNICAL SPECIFICATIONS

Electrical Characteristics

General

Frequency	L1, 1575.42 MHz
C/A code	1.023 MHz chip rate
Channels	20

Sensitivity

Tracking	-159dBm typ.
Acquisition	-142dBm typ.

Accuracy

Position	5 – 25m CEP without SA
Velocity	0.1 meters/second without SA
Time	1 microsecond synchronized to GPS time

Datum

Default	WGS-84
Other	Support different datum by request

Acquisition Rate (Open sky, stationary requirements)

Hot start	1 sec, average
Warm start	38 sec, average
Cold start	42 sec, average

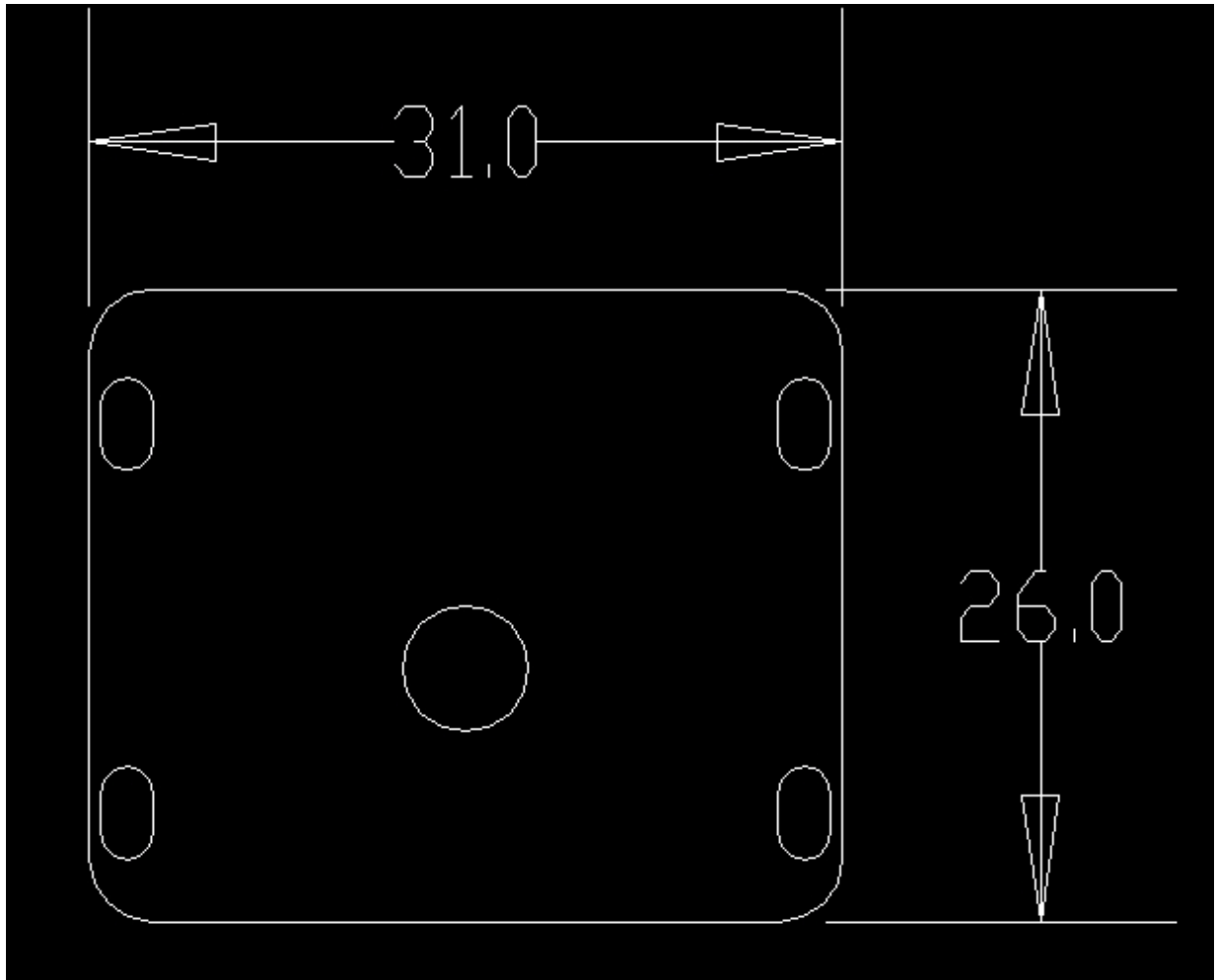
Dynamic Conditions

Altitude	18,000 meters max.
Horizontal Velocity	515 m/s max.
Vertical Velocity	36 kilometers/hour max.
Acceleration	4g, max.
Jerk	4 meters/second ³ , max.

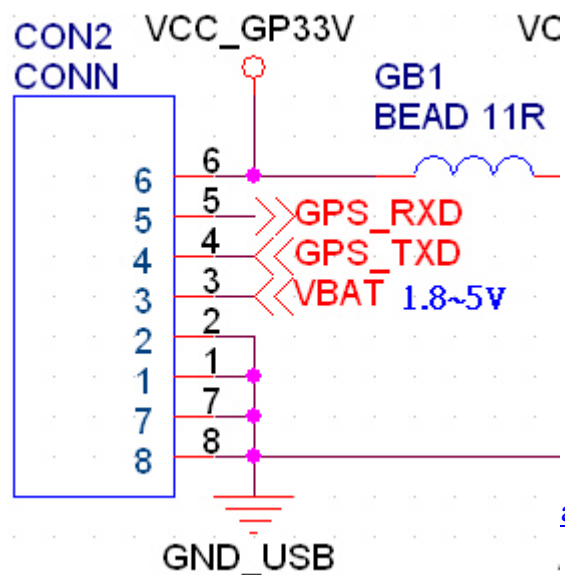
Power

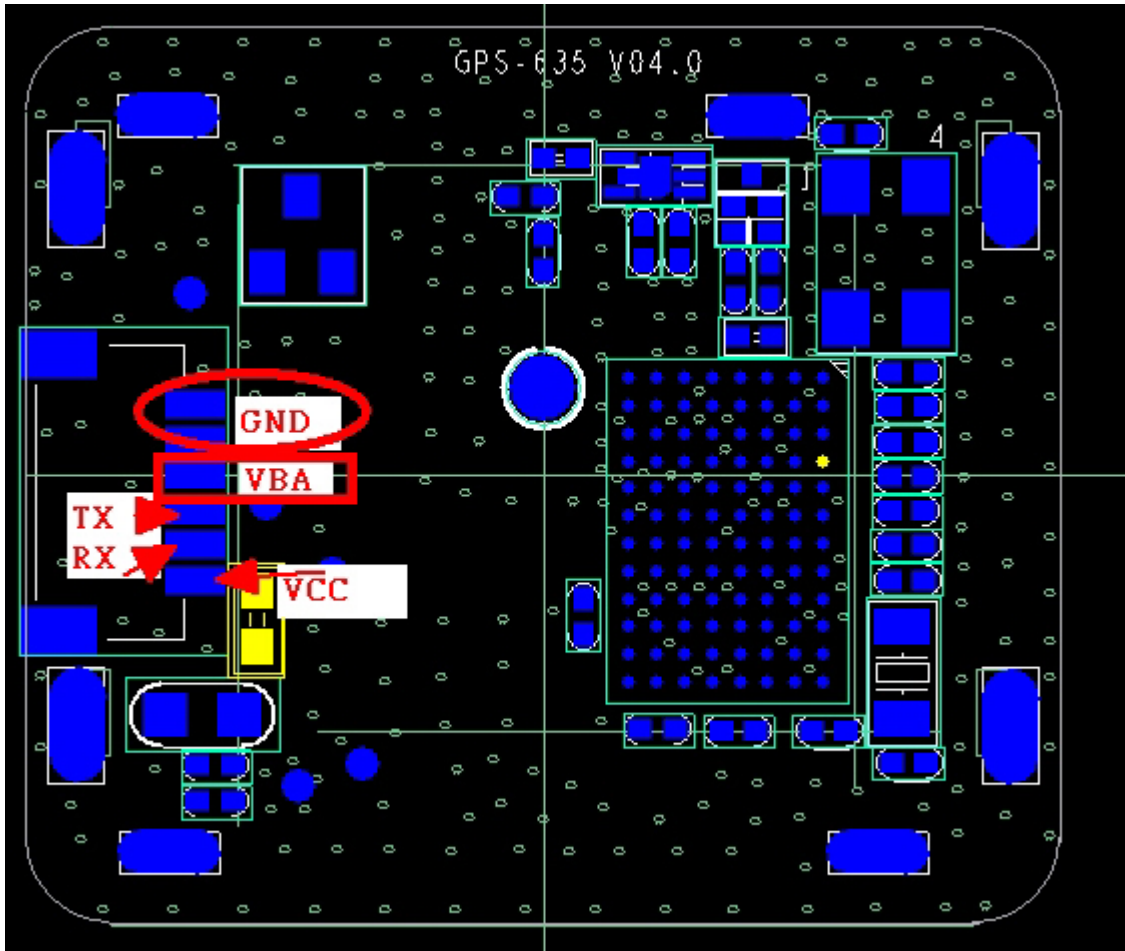
Main power input	3.3±5% VDC input
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DIMENSIONS



CONNECTOR





APPLICATIONS

The GPS module is a high performance, ultra low power consumption product. The applications are as below:

- Car navigation
- Wrist watch
- Solar operated device
- Marine navigation
- Fleet management
- AVL and Location-Based Services
- Radar detector with GPS function
- Hand-held device for personal positioning and navigation
- Ideal for PAD, Pocket PC and other computing devices for GPS application