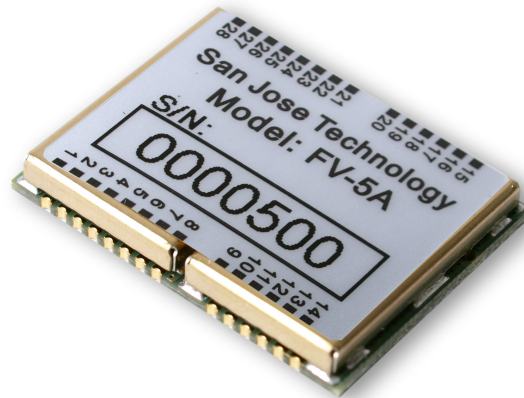


GPS Receiver Module

MODEL: FV-5A

High Sensitivity with A-GPS Support



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Introduction

FV-5A module combines high sensitivity, exceptionally low power consumption and a USB port in a small module measuring just 17 x 22 mm. The -160 dBm tracking sensitivity extends positioning coverage into places where GPS was not possible before, and enables solutions using smaller or covert antennas. Its small form factor and SMT pads allow for fully automatic assembly processes with standard pick-and-place equipment and reflow soldering, enabling cost-efficient, high-volume production. The combination of these features makes this module suitable for a broad spectrum of GPS products whose key requirements include high sensitivity, low power consumption and small size.

Features

- 40mA supply current at $V_{cc} = 2.7\text{ V}$
(Power reduction by more than 35% compared to predecessor modules)
- USB connectivity
- Significantly lower battery backup current
- Configurable I/O and UART voltage levels
- RoHS compliant (lead-free)
- 50 channel
- ANTARIS 4 positioning engine
- 4 Hz maximum position update rate

- Assisted GPS (MS-Assisted, MS-Based)
- Full SBAS (WAAS, EGNOS) support
- FixNOW power saving mode
- Supports passive and active antennas
- Antenna short and open circuit detection and protection
- Operating temperature range: -40 to 85°C

Specifications

Parameter	Specification
Receiver Type	50 Channels GPS L1 Frequency, CA Code GALILEO Open Service L1 frequency
Time-To-First-Fix	Cold Start 32 s Warm Start 32 s Hot Start <1s Aided Start <3 s (All satellites at -130 dB)
Sensitivity	Tracking & Acquisition -160dBm Reacquisition -160dBm Cold Start -143dBm
Horizontal Accuracy	Autonomous <2.5 m CEP (50%,24 hours static, -130dBm) SBAS <2.0 m SEP<3.5m
Accuracy of Timepulse Signals	RMS 30ns
	99% <60ns
	Timepulse Configurable: 0.25....1000 Hz
Max Navigation Update Rate	4Hz
Velocity Accuracy	0.1 m/s (50%@30m/s)
Heading Accuracy	0.5 degrees (50%@30m/s)
Dynamics	≤4g
Operational Limits	Velocity 600 m/s

*The specification is subject to change without prior notice.