

## GPS module information

The GPS module is a high-performance BDS/GNSS positioning and navigation module based on ATGM336H-5N. The module supports a variety of satellite navigation systems, including all the satellites of China's Beidou-2 and Beidou-3, the United States' GPS, Russia's GLONASS, and Japan's QZSS. It can simultaneously receive the satellite signals of the above satellite navigation systems, and realize joint positioning and navigation. And timing, the module has the advantages of high sensitivity, low power consumption, low cost, etc., suitable for vehicle navigation, handheld positioning, wearable devices.

### 1. Module Features

- Support all Beidou-2 and Beidou-3 satellites 1~63
- Support single-system positioning of BDS/GPS/QZSS satellite navigation system, and multi-system joint positioning in any combination.
- Support A-GNSS
- Cold start capture sensitivity: -148dBm
- Tracking sensitivity: -162dBm
- Positioning accuracy: 2.5 meters (CEP50)
- First positioning time: 32 seconds
- Low power consumption: continuous operation 25mA@3.3V
- Built-in antenna detection and antenna short circuit protection function

### 2. GPS module interface description

#### 2.1. PINArrangement Diagram

10	GND	nRESET	9
11	RF_IN	VCC	8
12	GND	NC	7
13	NC	VBAT	6
14	VCC_RF	ON/OFF	5
15	Reserved	1PPS	4
16	SDA	RXD	3
17	SCL	TXD	2
18	Reserved	GND	1

**ATGM336H**  
**Top View**

## 2.2. Pin Definition

NO.				Characteristics
1	GND	I	Ground	
2	TXD	O	Navigation data output	NMEA0183 protocol
3	RXD	I	Interactive command input	Configuration command input
4	1PPS	O	Second pulse output	
5	ON/OFF	I	Shutoff control of module, low level effectively	
6	VBAT	I	RTC and SRAM backup power supply	1.5~3.6V power supply to ensure that the module hot start
7	NC			
8	VCC	I	Module power input	DC 3.3V±10% ,100mA
9	nRESET	I	Module reset input, low level effectively	Left floating when not in use
10	GND	I	Ground	
11	RF_IN	I	Antenna signal input	
12	GND	I	Ground	
13	NC			
14	VCC_RF	O	output power supply	+3.3V , Power supply for antenna
15	保留			Hung
16	SDA	I/O	I <sup>2</sup> C Data Interface	Hung
17	SCL	O	I <sup>2</sup> C Clock Interface	Hung
18	保留			Hung

## 3. Communication protocol

For detailed communication protocol, please refer to CASIC Multimode Satellite Navigation Receiver Protocol Specification.pdf.