



# HD9200 SERIES PRECISE TIMING GNSS CHIP

## INTRODUCTION

The HD9200 series is a high precision timing GNSS solution targeting for the mobile base station synchronization and power plant synchronization markets. The newly designed CYNOSURE II architecture is optimized to offer a seamless experience in dense urban canyons. The HD9200 gives highly accurate timing data and reference frequency wherever they are.

The HD9200 is designed with intelligent power control mechanism in mind, which provides the most flexible power modes and performs the best-in-class power consumption. Micro power backup mode eliminates the need of turning off the system power completely, while enabling the ability to communicate with external device in deep sleep mode.

## HIGHLIGHTS

- Concurrent timing solution with GPS and Beidou
- Accurate time keeping with single-satellite only
- High timing accuracy up to 20ns

## APPLICATIONS

- Mobile base station synchronization
- Power plant synchronization



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## GENERAL SPECIFICATIONS

### GNSS Engine

Cynosure II GNSS Engine  
72 channels & DSP hardware acceleration

### Satellite Reception

GPS/QZSS, Beidou, GLONASS, Galileo,  
WAAS, EGNOS, MSAS, GAGAN, SDCM

### Time Accuracy

GNSS	25ns
SBAS	20ns

### Time to First Fix(TTFF)

Cold start	28 secs
Hot start	1 sec

### Sensitivity

Autonomous	-148dBm
Navigation	-165dBm

### Operation Limit

Velocity	515 m/s
Altitude	18,000 m

### Operation Condition

Main voltage	2.5 ~ 3.6V
Digital I/O voltage	2.5 ~ 3.6V
Backup voltage	1.6 ~ 3.6V
Operation power	26 mA
Standby power	11uA

### Safety Supervision

Short circuit protection  
Low voltage detection

### Others

Oscillator	TCXO
RTC	32768Hz
Storage	SQL flash(optional)

### Serial Interface\*

USB (FS, 12Mbps)	1
UART	2
SPI (master/slave)	3
I2C (master/slave)	1
PWM	2
Ext. interrupt	8

### Parallel Interface\*

Digital I/O*	56
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(\*multiplex with serial and parallel interfaces)

### Synchronization

Time synchronization	1
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## PACKAGE

Format	BGA100
Size	7.0mm x 7.0mm

## ENVIRONMENT DATA

Operation temperature	-40 to +85°C
Storage temperature	-40 to +125°C
Certification	RoHS & REACH

## ORDERING INFORMATION

HD9200	BGA100
HD9201	BGA100

## CONTACT US

5F, Building No. 4, Winlead Intelligent Park, No.3, FaDa road(middle), Bantian Subdistrict, LongGang District, Shenzhen City, Guangdong Province, China.

E-MAIL: [info@allystar.com](mailto:info@allystar.com)

Web: [www.allystar.com](http://www.allystar.com)

