



HD9100 SERIES PRECISE POSITIONING GNSS CHIP

INTRODUCTION

The HD9100 series is a high precision GNSS chip solution targeting for the smart driving and lane level navigation markets. The newly designed CYNOSURE II architecture is optimized to offer a seamless experience in dense urban canyons. The HD9100 gives the shortest time to position fix and continues to work wherever they are.

The HD9100 series adopts Real Time Kinematics (RTK) technology with the correction data from CORS network. It also supports both rover and base solutions for which don't have public CORS network. HD9100 is the chip-level compact solution and the best-in-class low power solution for precise positioning application.

HIGHLIGHTS

- Concurrent GNSS reception
- Beidou system support readiness
- Jammer detection and suppression
- Centimetre-Level positioning
- Support RTCM 2.3 / RTCM 3.2 Protocols

APPLICATIONS

- Smart driving
- Unmanned aerial vehicle
- Precise agriculture
- Mechanical control



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GENERAL SPECIFICATIONS

GNSS Engine

72 channels & DSP hardware acceleration

Satellite Reception

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

Position Accuracy

GNSS	2.5m CEP
SBAS	2.0m CEP
RTK	2cm+1ppm (baseline) 5cm+1ppm (elevation)
RTD	1 m RMS

Velocity & Time Accuracy

GNSS	0.1m/s CEP
SBAS	0.05m/s
1PPS	25ns

Time to First Fix(TTFF)

Cold start	28 secs
Hot start	1 sec
RTK initialized	10 secs

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	25 mA
Standby power	7uA

Safety Supervision

Short circuit protection
Low voltage detection

Others

Oscillator	Crystal or TCXO
RTC	32768Hz(optional)
Storage	SQL flash(optional)

Serial Interface*

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

Parallel Interface*

SDRAM	1
TFTC (RGB565/RGB serial,8-bit)	1
Digital I/O*	56
(*multiplex with serial and parallel interfaces)	

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

HD9100	BGA100
HD9101	BGA100
HD9102	BGA100

CONTACT US

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