



HD8030 SERIES HIGHLY INTERGRATED GNSS MCU CHIP

INTRODUCTION

The HD8030 series is a highly integrated MCU chip comprised GNSS Navigation function (GNMCU). The GNMCU supports multi-standard GNSS reception, high performance ARM Cortex-M3 core, color LCD controller and several flexible peripherals. This newly designed architecture is optimized to offer the best cost and performance solution with excellent GNSS experience.

The HD8030 is designed to offer new degrees of freedom to GNSS designer. As an all-in-one solution, CYNO-SDK is provided to allow designers quickly and easily utilizing HD8030's extensive array of software libraries. This compact and flexible solution reduces design risk while delivering optimized GNSS performance and minimized product BOM cost.

HIGHLIGHTS

- Concurrent GNSS reception
- Beidou system support readiness
- Intelligent power control mechanism
- Flexible peripheral configuration
- Direct drive color LCD interface
- Open SDK platform

APPLICATIONS

- Handheld GNSS devices
- Radar camera detectors
- Vehicle navigation terminals
- GNSS modules



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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 |

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 |

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 | 1 |
| (RGB565/RGB serial,8-bit) | |
| 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

| | |
|--------|--------|
| HD8030 | BGA100 |
| HD8031 | BGA100 |

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