

December, 2009
Highlights

- 40 pin Quad SMD package with 16mm x 16mm footprint
- 39 second Cold TTFF
- Acquisition sensitivity -146dBm
- Tracking sensitivity -159dBm
- 16 GPS tracking Channels
- SBAS (WAAS and EGNOS)
- RoHS Compliant
- Integrated LNA, SAW, and power conditioning
- Integrated RF section for direct connection to passive or active antennas
- Interfaces:
 - 2 serial communication interfaces (UART) up to 115k baud for NMEA and Debug
 - NMEA 0183 ASCII data or Binary Protocol
- Low Power STANDBY Mode
- Pulse-Per-Second (PPS) output for precision timing applications
- 1-satellite stationary timing mode
- TRAIM Algorithm
- User settings saved in FLASH
- -40°C to 85°C temp range
- 3.0 to 3.6V Supply Voltage (Separate external 1.8V supply to reduce power)

DeLorme
GPS2058-10 Module
The easy way to integrate GPS into your products

Overview

The DeLorme GPS2058 module combines the STMicroelectronics high sensitivity STA2058 (Teseo) GPS baseband chip with the STA5620 Low Power GPS RF front end to form a complete high performance GPS receiver module. The GPS2058 is an ideal solution for consumer, Handheld, PND (Portable Navigation), in-vehicle Navigation and Telematics systems. The GPS2058 firmware performs all basic GPS operations including tracking, acquisition, navigation and data output with no need of external memories. SBAS (WAAS and EGNOS) features are also supported.


Simple GPS Design

The GPS2058-10 module simplifies embedded applications of GPS-based information systems. In simple terms, the user must connect an active or passive antenna, provide a power source, and connect the module to a host via a serial port to produce GPS positional data.

Compact SMD

The compact 16mm x 16mm module size of the GPS2058 is perfect for easy integration into any small space. The module is enclosed within a protective metal shield for easy handling. This allows for fully automatic assembly processing with standard pick-and-place equipment and is lead-free reflow-solder assembly ready.

Complete GPS Solution

The GPS2058 utilizes an embedded LNA and SAW filter for optimum performance, minimum footprint and low-cost. The onboard TCXO assures fast startups and high stability across all environments. FLASH-based memory allows the user to update firmware, provides storage for critical satellite data for fast starts without a backup battery, and provides storage for user configuration settings.

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DeLorme GPS2058-10 Specifications

Performance

16-channel, L1 (1575.42 MHz) GPS receiver

Acquisition Time

- Cold Start 39 seconds
- Warm Start 34 seconds
- Hot Start 2.5 seconds

Acquisition Sensitivity: -149dBm warm

Tracking Sensitivity: -159dBm

Reacquisition Time: <1.0 seconds average

Accuracy

- Position: 0.63 meters (CEP 50%, 24hr static)
- Altitude: <+/- 5m vertical
- Velocity: 0.1 m/s

Time (PPS): +/-62ns synchronized to UTC time

Velocity: 515 m/s (1,000 knots)

Acceleration: 4g

Altitude: 10,000 m (32,000 ft)

Jerk: 20 m/s³

Electrical

Main power input: 3.3±5% VDC input

Physical

Dimensions: 0.63 in (L) x 0.63 in (W) x 0.121 in (H)
16mm (L) x 16mm (W) x 3.1mm (H)

Weight: 2.5 g

Environmental

Operating Temperature: -40 °C to +85 °C

Storage Temperature: -55 °C to +100 °C

Relative Humidity: 5% to 95%, non-condensing

Physical

Connectors: 40 Pin SMD quad package

Output Protocol: NMEA0183 or Binary

Baud Rate: 4800 bps default
(Configurable to 115k bps)

Update Rate: 1 Hertz

Datum: WGS84

NMEA Msgs: GGA/GSA/GSV/VTG/RMC/GLL

Support Products and Options

GPS2058 Module Evaluation Kit

Ordering Code: GM-2058EV-101

Ordering Information

Packaging: Tape and Reel

Quantity per Reel: 500 Pieces

P/N: GPS2058-10

Ordering Code: GM-205810-000

Contact

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The GPS2058 Evaluation Kit is also a reference design, Development platform, and complete navigation system