

DELORME GPS2056-10 Module

The easy way to integrate GPS into your products



January 2007

Highlights

- STMicroelectronics STA2056V-Palinuro single-chip GPS technology
- Hot Start: 1 second 95% TTFF
Warm Start: 38 seconds 95% TTFF
Cold Start: 114 seconds 95% TTFF
- Easily integrated
- Fully automated assembly
- Compact SMD
- Single 3.3V power supply with onboard regulation
- Low power consumption
- NMEA protocols
- Embedded LNA and SAW
- WAAS enabled at default
- 1PPS enabled at default
- ROM-based GPS Library

Overview

The DeLorme GPS2056-10 module is a high sensitivity, low power, SMD type 12-channel GPS receiver designed for a broad spectrum of OEM applications. Based on the fast and deep GPS signal search capabilities of the STMicroelectronics STA2056V-Palinuro chip, it features an integrated RF block combined with the high performance CPU of ARM7TDMI microprocessor. The end result provides excellent navigation performance in the most challenging urban environments. The DeLorme GPS2056-10 offers RTCA-SC159 / WAAS / EGNOS support and provides excellent sensitivity and high configurability in a small package.



Simple Design

The GPS2056-10 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 (or USB) to produce GPS positional data.

Compact SMD

The compact module size of the GPS2056-10 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 reflow-solder assembly ready.

Embedded LNA

The GPS2056-10 utilizes an embedded LNA and SAW filter for optimum performance and low-cost.

DeLorme Evaluation Kit

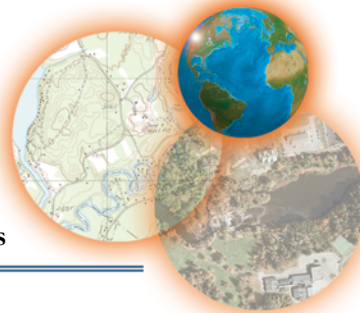
The GPS2056-10 evaluation kit provides the system integrator with everything needed to quickly integrate the GPS2056-10 into your system and achieve fast time to market. For customized solutions for specific applications, please contact us.

DeLorme GPS & Mapmaking Expertise

DeLorme offers the expertise needed for OEMs looking to integrate GPS navigation solutions into their own business plans. In addition to our GPS hardware expertise and relationship with STMicroelectronics, we also have a large staff of dedicated mapmakers and software engineers building innovative and affordable solutions. The DeLorme brand is widely recognized and used by millions of satisfied customers.

DELORME GPS2056-10 Module

The easy way to integrate GPS into your products



DeLorme GPS2056-10 Specifications

Performance

General 12-channel, L1 (1575.42 MHz) GPS receiver

Acquisition Time

- Hot Start 1 second 95% TTFF
- Warm Start 38 seconds 95% TTFF
- Cold Start 114 seconds 95% TTFF

Reacquisition Time 0.1 seconds average

Position Accuracy 10 meters, 2D RMS

Altitude <+/-35 m vertical in term of 95%

Velocity 0.1 m/s

Time (PPS) <150ns Accuracy synchronized to GPS time

DGPS (Optional) <5m (50%)

Acquisition Sensitivity

- Hot 28dB-Hz
- Warm 32dB-Hz
- Cold 35dB-Hz

Tracking Sensitivity 20dB-Hz

1PPS <150ns

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

Acceleration 4g Max

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

Jerk 20 m/s

Electrical

Main power input 3.3±5% VDC input

Power consumption 50 mA @ 3.3V = 165 mW

Backup Power 3.0 to 3.6V @ 15uA (STDBYI < 0.8V)

Physical

Dimensions 0.98 in (L) x 1.0 in (W) x 0.13 in (H)
24.89 mm (L) x 25.43 mm (W) x 3.38 mm (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

Interface

Interface Connectors 40 Pin SMD micro package

Output Protocol NMEA0183

Baud Rate 4800 bps default (user configurable to 57600 bps)

Update Rate 1 Hertz

Datum WGS 84

Protocol Message GGA, GSA, GSV, VTG (RMC available)

TTL TTL level serial port for GPS communications interface

Support Products and Options

GPS2056 Module Evaluation Kit

Ordering Code GM-2056EV-101

Ordering Information

Packaging Tape and Reel

Quantity per Reel 335 Pieces

P/N GPS2056-10

Ordering Code GM-205610-000

Contact:

Jim Ragonese
DeLorme, Inc.
Two DeLorme Drive
Yarmouth, ME 04096
207-846-7019
jim.ragonese@delorme.com

Brian Stearns
DeLorme, Inc.
Two DeLorme Drive
Yarmouth, ME 04096
207-846-7000 ext. 2383
brian.stearns@delorme.com