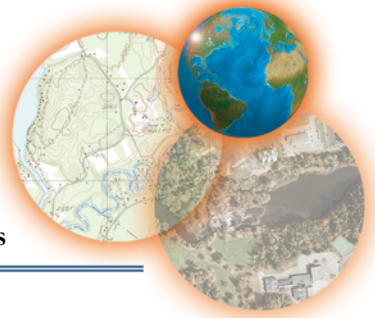**DELORME**
GPS2056-10 Module
The easy way to integrate GPS into your products

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.
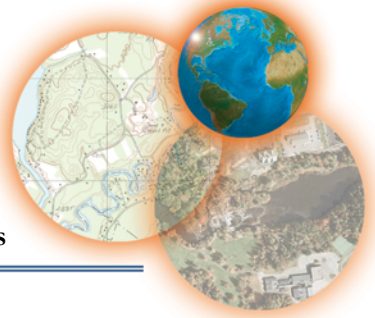
DeLorme Evaluation Kit

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.

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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

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