

**GPS Receiver Module****Preliminary**

Ultra Low-Power consumption (100mW)  
 Compact and Thin design  
 Handles differential GPS

**OVERVIEW**

GPS (Global Positioning System) having been used Car Navigation Systems, is now going to be used in mobile equipment as well. S4E39860 is the miniature GPS Receiver module developed for the purpose of built in the mobile equipment based on the battery-drive. Super-low consumption electric power, compact and thin size were realized by developing the special IC which built in Signal Processor, SRAM and RTC in the 32Bit RISC- CPU (SEIKO EPSON original).

**FEATURES**

## GPS Receive Part Specification

- |   |  |
|---|--|
| • Receiving frequency                   | 1575.42MHz (L1),C/A code   |
| • Receiving method                      | Multi-Channels (8 channels)  |
| • Sensitivity                           | -130dBm  |
| • Update rate                           | 1 second (shortest)  |
| • Accuracy                              | Position:25m CEP (SA OFF), Velocity:0.1m/s (SA OFF)  |
| • Measurement time<br>(90% probability) | Cold start :5 minutes or less<br>Warm start :50 seconds or less<br>Hot start :10 seconds or less |
| • Interruption recovery time            | 2 seconds or less (90%)  |
| • Dynamic capability                    | Velocity:350m/sec (max.), Acceleration:4G  |
| • Measurement method                    | Corresponding to 2D/3D and Auto Measurement method   |
| • Geodetic system                       | WGS84  |

## Electric Specification

- |                        |                           |
|------------------------|---------------------------|
| • Power supply voltage | 3.1V ~ 3.6V (Typ 3.3V)    |
| • Backup voltage       | 2.3V ~ VCC                |
| • Power consumption    | 100mW (at 3.3V operation) |
| • At power saving      | 10 $\mu$ A (+25 )         |

## Temperature range

- |                               |           |
|-------------------------------|-----------|
| • Operating temperature range | -30 ~ +80 |
| • Storage temperature range   | -40 ~ +85 |

## Interface Specification

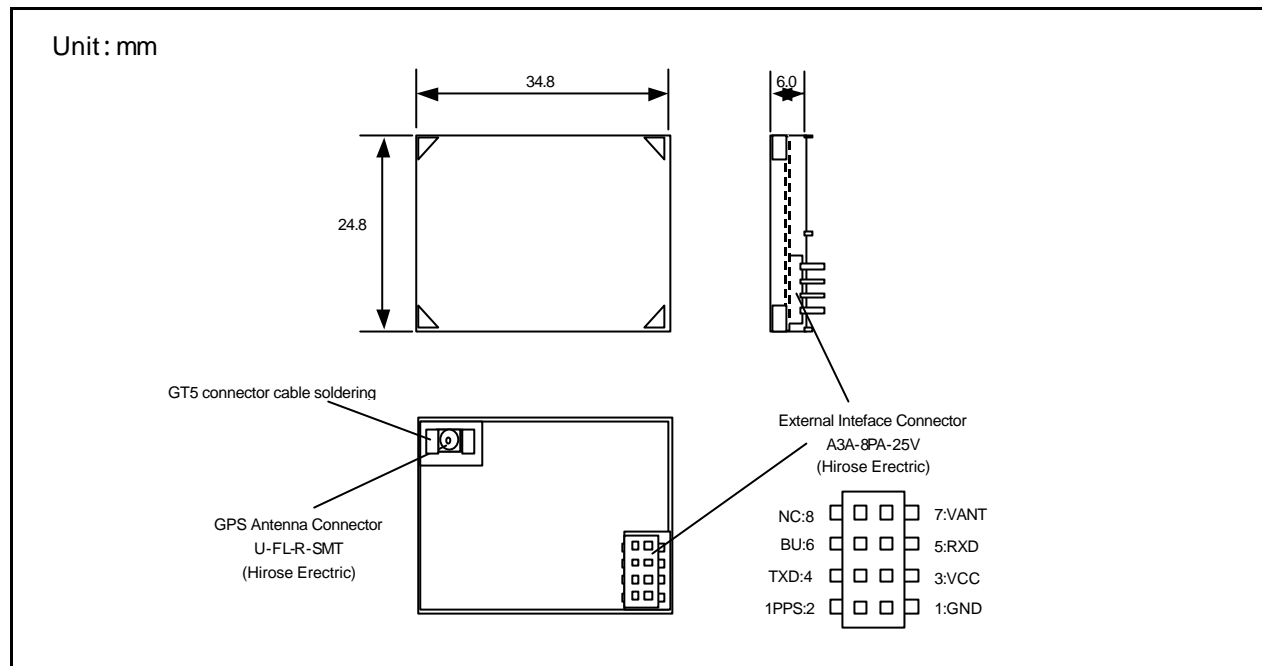
- |                      |                                     |
|----------------------|-------------------------------------|
| • Data output format | NMEA0183 (standard) or EPSON format |
| • Transfer rate      | Serial interface, 9600bps           |
| • I/O connector      | DF14-6P-1.25H (HIROSE ELECTRIC)     |
| • RF connector       | U.FL (HIROSE ELECTRIC)              |

## Dimensions

34.8 × 24.8 × 6.0 (W × D × Hmm)

\*Notes: Since the specification above are based on the under-developing product, they may be changed before actual manufacturing.

## EXTRENAL DIMENTION DIAGRAM



## ANTENNA SPECIFICATIONS

LNA Power supply voltage	3.0V
Gain of unit	25dBm (typ)
NF	1.5db (min)
RF connector	U.FL-LP

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## SEIKO EPSON CORPORATION

ELECTRONIC DEVICES MARKETING DIVISION

### System Products Marketing Group

#### Electronic Devices Marketing Department

421-8 Hino-shi, Tokyo 191-8501 JAPAN  
Phone:+81-42-587-5317 Fax:+81-42-587-5186

### ED International Marketing Department(Europe & U.S.A.)

421-8, Hino, Hino-shi, Tokyo 191-8501, JAPAN  
Phone: +81-(0)42-587-5812 Fax: +81-(0)42-587-5564

### (Asia)

421-8, Hino, Hino-shi, Tokyo 191-8501, JAPAN  
Phone: +81-(0)42-587-5814 Fax: +81-(0)42-587-5110



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