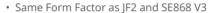# SE868SY-SF

GNSS

Product Description

The SE868SY-SF is the single band variant of the well known SE868SY-D. The GNSS receiver supports GPS, GALILEO, GLONASS and BEIDOU in the L1 band as well as QZSS and SBAS.

The SE868SY-SF can navigate to -161 dBm and track to -165 dBm, providing improved performance in harsh environments. It is pin-out compatible with the SE868 V3 as well as the JF2 and the SE868 V2. It can track GPS, GALILEO, GLONASS or BeiDou constellations simultaneously , providing the host device with high-value benefits from multi-constellation navigation.

The SE868SY-SF is encased in an 11 x 11 mm QFN-like package, includes a powerful baseband processor, embedded Flash memory and integrated LNA. Its ultra-sensitive RF front-end and multi constellation capability enable high-quality navigation in outdoor scenarios and in urban areas. The SE868SY-SF delivers navigation data over a serial interface according to the NMEA protocol standard. Its low power processing core delivers optimized multi-constellation tracking with ultra low power consumption.

The SE868SY-SF supports ephemeris file injection (A-GNSS) as well as Satellite Based Augmentation System (SBAS) to increase position accuracy and improve time-to-first-fix (TTFF). Its onboard software engine can predict local short-term ephemeris starting from ephemeris data broadcast by GNSS satellites received by the module and stored in the internal Flash memory.

Key Benefits

- Same Form Factor as JF2 and SE868 V3
- Full GNSS compliance: GPS, GLONASS, Galileo, BeiDou
- Up to four constellations for improved performances
- Ultra-low power consumption
- Embedded LNA allows use of passive antennas
- Supports ephemeris file injection (A-GNSS)
- Satellite Based Augmentation System (SBAS) compliant**

Family Concept

The Telit positioning product portfolio is the result of over twenty years of experience in GNSS applications. Our current product offering ranges from GPS-only and multi-constellation receivers, to the best in class multi-frequency module.

The SE868 family offers a broad series positioning solutions and customizations in a compact 11 x 11 mm form factor, and the integrated Telit proprietary commands allow for an easy transition between different variants. These unified command-set reduces development complexity without additional costs.

Typical applications include fleet management systems, e-mobility applications, road tolling systems, cellular base stations, automotive telematics systems, and wearables sports training monitors.

SE868SY-SF

Product Features

- 32-pad QFN-like package
- Frequency Band: GPS L1C/A, Galileo E1, Glonass L1OF, BeiDou B1I, B1C
- 32 physical acquisition/tracking channels
- Standards: NMEA
- Jamming rejection
- Low Power Modes
- A-GNSS: ephemeris file injection
- Telit proprietary PTWS commands
- EGNOS, WAAS, GAGAN and MSAS capability embedded with correction of positional errors due to ionospheric and orbital disturbances

Environmental

- Dimensions: 11 x 11 x 2.8 mm
- Weight: 1 g
- 32-pad QFN-like package
- Temperature range
  - Operating temperature: -40 to +85°C
  - Storage temperature: -40 to +85°C

Interfaces

- UART interface
- 1PPS for precise timing

Approvals

- RoHS compliant
- RED, UKCA

Electrical & Sensitivity

- Power supply
  - From 1.71 V up to 1.89 V
  - From 0.75 V up to 0.85 (Low Power variant)
- Power consumption: L1, Full Power, 1Hz
  - Acquisition: 52 mW
  - Tracking: 35 mW
  - Deep sleep: 70 uW
- Power consumption, L1, Full Power, 1Hz (Low Power variant*)
  - Acquisition: 38 mW
  - Tracking: 20 mW
  - Deep sleep: 50 uW
- Sensitivity: L1
  - Acquisition: -147 dBm
  - Navigation: -161 dBm
  - Tracking: -165 dBm
- Horizontal positional accuracy: L1
  - CEP50 < 1 m
- Timing Accuracy (1PPS)
  - Jitter: <10 ns @1-sigma
- Time To First Fix (90% @ -130 dBm): L1
  - Hot start: 1 s
  - Cold start: < 29 s

preliminary values

QUESTIONS? VISIT WWW.TELIT.COM/CONTACT-US

Like Us on Facebook   Follow Us on LinkedIn   Follow Us on Twitter   Subscribe to Our Channel