GPS Engine Board

EB-800A

EB-800A is a miniature 13 x15 mm^2 **GPS / Glonass** engine that is capable of receiving both GPS and Glonass signal with single RF input and high receiving sensitivity.

With up to **-165dBm** superior tracking sensitivity, the GPS + Glonass dual system EB-800A enables better satellite coverage and superior position accuracy for your navigation need under dynamic conditions in areas with limited sky view like urban canyons.

EB-800A is pin compatible with TSI's popular EB-500, it provides best migration path for your embedded applications.

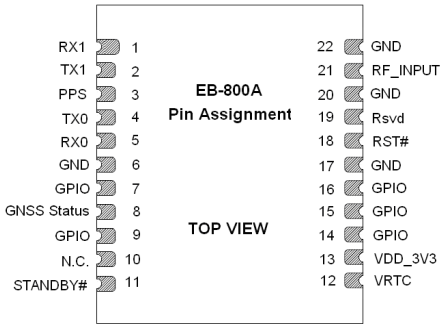
Key Features :

- Small form factor: 13 x 15 x 2.2 mm
- Support GPS + Glonass dual system
- Lead-Free – RoHS/WEEE compliant
- High sensitivity -165dBm
- Tracks 99-Channel of satellites
- Support multi-GNSS including. QZSS, SBAS
- WAAS/EGNOS/MSAS/GAGAN supported
- RTCM ready
- AlwaysLocate™ location awareness technology
- EPO™ / HotStill™ orbit predition
- EASY™ self-generated orbit prediction
- Fast Position Fix
- Ultra low power consumption
- FCC E911 compliance and A-GPS support
- Backward compatible with EB-500

Applications :

- Handheld devices
- Automotive and Marine Navigation
- Automotive Navigator Tracking
- Emergency Locator
- Geographic Surveying
- Personal Positioning
- Sporting and Recreation
- Embedded applications : PDA, DSC, Smart phone, UMPC, PND, MP4

PIN Definition :



RoHS Compilant

ELECTROSTATIC SENSITIVE DEVICES

Specifications

Item	Description
General	L1 frequency, C/A code (SPS) 99 independent tracking channels
Sensitivity	-165dBm /Tracking; -148dBm /Acquisition
Update Rate	Up to 10Hz
Accuracy	Without aid: 3.0m 2D-RMS <3m CEP (50%) without SA (horizontal) DGPS (WAAS, EGNOS, MSAS, RTCM): 2.5m
Acquisition (open sky)	Cold Start: <35sec Warm Start: <34sec Hot Start: <1.5sec
Reacquisition	< 1sec
Dynamics	Altitude：18000m（max.） Velocity：515m/sec（max.） Vibration：4G（max.）
Supply Voltage	DC 3.0~4.2 V
Power Consumption	< 22 mA @ 3.3V (w/o Active ANT) / Tracking
Backup Battery	DC 2.0~4.2V, 20 uA@3.3V typical
NMEA Message	NMEA0183 v4.1 GGA, GSA, GSV, RMC (Default) / GLL, VTG (Optional) Baud rate 4800/9600/…/115200, default 9600
Datum	Default WGS-84
Antenna	External Active Antenna Output Voltage: 2.8 VDC or Passive Antenna
Serial Interface	UART
Operating Temp.	-40℃ to 85℃
Storage Temp.	-40℃ to 85℃
Operating Humidity	≦95%, non condensing
Mounting	SMT Type, 22 Pin
Dimension	13 x 15 x 2.2(H) mm

* Refer to chip specification.

** Specifications subject to change without prior notice.

Pin Definition

Pin#	Signal Name	Type	Description
1	RX1	I	UART port 1 input (RTCM only)
2	TX1	O	UART port 1 output
3	PPS	O	PPS
4	TX0	O	UART port 0 for NMEA output
5	RX0	I	UART port 0 input
6	GND	P	Ground
7	GPIO	I/O*	General input / output, leave open if not used
8	GNSS Status	O	GNSS status, blink when GPS or Glonass has position fix
9	GPIO	I/O*	General input / output
10	NC	NC	NC
11	STANDBY#	I	Active low to put module into standby mode, leave open if not used.
12	VRTC	P	RTC power 2.0~4.2V, 20uA @ 3.3V typical
13	VCC_3V3	P	Power Supply 3.0~4.2V DC
14	GPIO	I/O*	General input / output, leave open if not used
15	GPIO	I/O*	General input / output, leave open if not used
16	GPIO	I/O*	General input / output, leave open if not used
17	GND	P	Ground
18	HRST#	I	Module reset, active low, leave open if not used
19	Rsvd	I/O*	Reserve for future use, leave open if not used
20	GND	P	Ground
21	RF_IN	I	RF input port, L1 band, 50 ohm Active antenna DC power feed, same as VCC_3V3 (pin #13)
22	GND	P	Ground

Note : 1) P: Power, I: Input, O: Output, I/O: Input or Output
2) GPIO current output default：4mA, Max ：16mA

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