GPS Engine Board

EB-8084A

EB-8084A is a miniature 15.24 x15.24 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-8084A 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-8084A is pin compatible with TSI's popular EB-5084, it provides best migration path for your embedded applications.

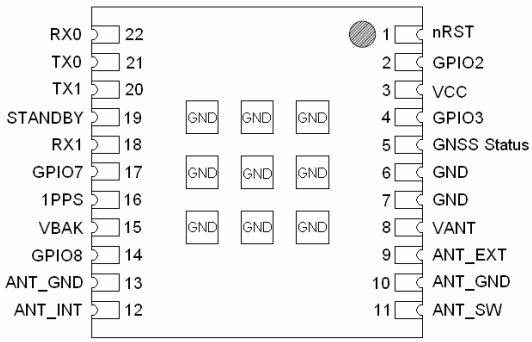
Key Features :

- Small form factor: 15.24 x 15.24 x 2.4 mm
- Support GPS + Glonass dual system
- Lead-Free – RoHS/WEEE compliant
- High sensitivity -165dBm
- Tracks 66-Channel of satellites
- Support QZSS and 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-5084

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 :



EB-8084A Pin Assignment

RoHS Compilant

ELECTROSTATIC SENSITIVE DEVICES

TRANSYSTEM INC.

Ultimate EB

An A+ supplier of RF microwave & GPS products

Specifications

Item	Description
General	L1 frequency, C/A code (SPS) 66 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	< TBD mA @ 3.3V (w/o Active ANT) / Tracking
Backup Battery	DC 2.0~4.3V, 20 uA@3.3V typical
NMEA Message	NMEA0183 v3.1 baud rate 4800/9600/…/115200, default 9600 Selectable Output: GGA, GLL, GSA, GSV, RMC, and VTG
Datum	Default WGS-84
Antenna	External Active Antenna; VANT Voltage: 0~5VDC 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	15.24 x 15.24 x 2.4(H) mm

* Refer to chip specification.

** Specifications subject to change without prior notice.

Pin Definition

Pin#	Signal Name	Type	Description
1	nRST	I	Input, active low to reset module
2	GPIO 2	I/O*	Reserved – leave open if not used
3	Vcc	P	3.0~4.2 VDC
4	GPIO 3	I/O*	Reserved – leave open if not used
5	GNSS Status	O	Output, blinking when GNSS has position fix
6	GND	P	Power ground
7	GND	P	Power ground
8	VANT	P	Antenna power supply, 0~5V
9	ANT_EXT	I	Active antenna input / Z=50 Ohm
10	ANT_GND	P	Antenna Ground, connect to antenna shield
11	ANT_SW	I	Antenna switch input, LOW (<0.5V) or Open = passive antenna, pin12 (ANT_INT) input HIGH (>2.2V) = active antenna, pin 9 (ANT_EXT)
12	ANT_INT	I	Passive antenna input / Z=50 Ohm
13	ANT_GND	P	Antenna Ground, connect to antenna shield
14	GPIO 8	I/O*	Reserved – leave open if not used
15	Vbak	P	Back-up power with "super cap" or battery, 2.0~4.3VDC
16	1PPS	O	1PPS output
17	GPIO 7	I/O*	Reserved – leave open if not used
18	RX1	I	Serial input 1
19	STANDBY	I	Input, falling edge to put module to standby mode, leave open if not used
20	TX1	O	Serial output 1
21	TX0	O	Serial output 0, default NMEA out
22	RX0	I	Serial input 0, default NMEA in

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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