

## GPS Engine Board



### EB-54X

EB-54X is a complete GPS sub-system with 32 x 32 mm<sup>2</sup> In size. Equipped with antenna, back up battery GPS engine and onboard memory, it provides superior navigation performance under dynamic conditions in areas with limited sky view like urban canyons. High sensitivity up to **-165dBm** for weak signal operation without compromising accuracy. EB-54X is your best choice for embedded applications.



#### Key Features :

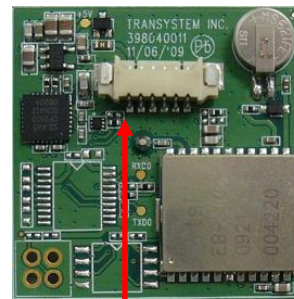
- Compact form factor: 32 x 32 x 11 mm
- Lead-Free – RoHS/WEEE compliant
- Tracks 66-Channel of satellites
- Fast Position Fix
- Low power consumption
- 5Vdc supply voltage
- USB / UART / TTL interface
- LED indication for GPS status
- Build-in re-chargeable backup battery
- Motion sensor & Log capability ( EB-541 only )

#### Applications :

- Automotive and Marine Navigation
- Automotive Navigator Tracking
- Emergency Locator
- Geographic Surveying
- Personal Positioning
- Sporting and Recreation

#### Pin Assignment

Pin #	Signal Level		
	USB	RS-232	TTL
1	Vcc	Vcc	Vcc
2	D-	Vcc	RX
3	D+	RX	TX
4	GND	GND	GND
5	D-	TX	RX
6	GND	GND	1PPS



Pin #1



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**Ultimate  
EB**

## Specifications

Specification	Description
General	L1 frequency, C/A code (SPS) 66 independent tracking channels
Sensitivity	-165dBm /Tracking
Update Rate	Up to 5Hz
Accuracy	<3m CEP, without aid DGPS (WAAS, EGNOS, MSAS, RTCM): 2.5m
Acquisition (open sky)	Cold Start: 35sec / Warm Start: 34sec / Hot Start: 1.5sec Cold Start (with AGPS) <15sec
Reacquisition	< 1sec
Dynamics	Altitude: 18000m (max.) Velocity: 515m/sec (max.) Vibration: 4G (max.)
Supply Voltage	DC 5V
Power Consumption	40mA max. @ 5.0V / Tracking
Backup Battery	Build-in
NMEA Message	NMEA0183 v3.1 baud rate 4800/9600/.../57600, default 9600 Selectable Output: GGA, GLL, GSA, GSV, RMC, and VTG Default Output: GGA ∙ GSA ∙ GSV ∙ RMC (for Logger)
Datum	Default WGS-84
Antenna	Build-in 25*25*4 mm patch antenna, right hand circular polarization, 50ohm
Log capability	Up to 125,000 way points, logger model only Default: Date/Time ∙ Latitude ∙ Longitude ∙ Height ∙ Speed
Smart log capability	Yes, logger model only
Mac support	Yes
Signal Level	USB, RS-232 or Low Voltage TTL
Connector	Wafer connector, pitch 1.25mm directional wire to board connector. See ordering information
Operating Temperature	-30°C to 85°C
Storage Temperature	-40°C to 85°C
Operating Humidity	≤95%, non condensing
Dimension	32 x 32 x 11 mm

\*Specifications subject to change without prior notice.

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# EB-54X Series Catalog

## Order information

Model No.	Log Capability	Antenna	Signal Level	Connector
EB-540 UW	No	25x25x4 mm	USB	Wafer
EB-541 UW	Yes	25x25x4 mm	USB	Wafer
EB-540 RW	No	25x25x4 mm	RS-232	Wafer
EB-541 RW	Yes	25x25x4 mm	RS-232	Wafer
EB-540 TW	No	25x25x4 mm	Low Voltage TTL	Wafer
EB-541 TW	Yes	25x25x4 mm	Low Voltage TTL	Wafer

PRELIMINARY