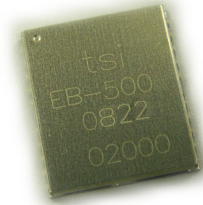


GPS Engine Board

EB-500/ EB-500L



EB-500 is an ultra miniature 13 x 15 mm² GPS engine board. 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-500 series are your best choice for embedded applications.

Key Features :

- Small form factor: 13 x 15 x 2.2 mm
- Lead-Free – RoHS/WEEE compliant
- High sensitivity -165dBm
- Tracks 66-Channel of satellites
- Fast Position Fix
- Low power consumption
- 500 High Gain version
- 500L Low Gain version
- 500 can used passive antenna.
- 500L recommend to match with active Antenna
- Support A-GPS

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 :

1	RX1	GND	22
	TX1	RF_INPUT	
	PPS	GND	
	TX0	V28A	
	RX0	NC	
	GND	GND	
	GPIO [3]	GPIO [2]	
	GPS status	GPIO [8]	
	GPIO [12]	GPIO [7]	
	V28D	VIN_3V3	
11	NC	V_RTC_3V3	12

Ultimate



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EB

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EB-500 Specifications

Specification	Description
General	L1 frequency, C/A code (SPS) 66 independent tracking channels
Sensitivity	-165dBm /Tracking; -148dBm /Acquisition
Update Rate	Up to 5Hz
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 With AGPS: <15sec
Reacquisition	< 1sec
Dynamics	Altitude: 18000m (max.) Velocity: 515m/sec (max.) Vibration: 4G (max.)
Supply Voltage	DC 3.0~4.2 V
Power Consumption	EB-500: <28mA@4V (w/o Active ANT) / Tracking EB-500L: <25.5mA@4V (w/o Active ANT) / Tracking
Backup Battery	DC 2.0~4.2V (RTC Vcc)
NMEA Message	NMEA0183 v3.1 baud rate 4800/9600/.../57600, default 9600 Selectable Output: GGA, GLL, GSA, GSV, RMC, and VTG
Datum	Default WGS-84 (total 219 Datum)
Antenna	External Antenna / External Active Antenna Output Voltage: 2.8VDC
Serial Interface	UART
Operating Temperature	-40°C to 85°C
Storage Temperature	-40°C to 125°C
Operating Humidity	≤95%, non condensing
Mounting	SMT Type, 22 Pin
Dimension	13 x 15 x 2.2(H) mm

*Specifications subject to change without prior notice.
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