



RESOLUTION SMT EMBEDDED GPS TIMING BOARD

KEY FEATURES

- Extended temperature range (-40/+85 °C)
- Compact surface-mount package (2.54 mm T x 19 mm W x 19 mm L) in tape and reel packaging for low-cost, high-volume manufacturing
- Accurate 1 PPS or even second output, synchronized to GPS or UTC within 15 nanoseconds (1 σ)
- T-RAIM-Timing Receiver Autonomous Integrity Monitoring provides high PPS integrity
- Automatic self-survey
- TSIP and NMEA protocols

Trimble delivers the next generation GPS timing solution in the Resolution SMT™ GPS board. Designed specifically for compact, high-volume applications, the Resolution SMT shrinks its form factor to a surface mount package, about the same size as a postage stamp. With the same pulse per second (PPS) accuracy and timing features, the Resolution SMT is the most cost-effective timing board ever produced by Trimble.

Lowers total cost of operation

The Resolution SMT lowers your total cost of operation by reducing the form factor to enable this timing functionality in the most compact user applications. The surface mount package enables high-volume and low-cost manufacturing, eliminating the need for costly connectors and substantial board space.

Standard Timing features

The Resolution SMT includes many of Trimble's standard timing features, including the Timing Receiver Autonomous Integrity Monitoring (T-RAIM) algorithm, and automatic self-survey.



Starter Kit and Carrier Board Options

The Resolution SMT board may be loaded directly onto the customer application board, or can be purchased on a carrier board for integrators who prefer the traditional form factor of the original Resolution T. The Starter Kit provides everything you need to evaluate the Resolution SMT board, including the Resolution SMT on a carrier board, AC/DC power converter, antenna and USB interface cable.

RESOLUTION SMT EMBEDDED GPS BOARD

PERFORMANCE SPECIFICATIONS

Sensitivity	
Tracking	-160 dBm
Acquisition	-155 dBm

INTERFACE CHARACTERISTICS

Connections	28 surface-mount edge castellations
Serial Port	1 serial port
PPS / Even Second	CMOS-compatible, TTL-level pulse, once per second
Protocols	TSIP, NMEA 0183
	Bi-directional NMEA messages
	Messages selectable by NMEA commands
	Selection stored in flash memory

ELECTRICAL CHARACTERISTICS

Supply Voltage Range	3.0 V DC to 3.6 V DC
Power Consumption	100 mA @ 3.3 V
Ripple Noise	Max 50 mV, peak-to-peak from 1 Hz to 1 MHz

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature	-40 °C to +85 °C
Vibration	0.008 g ² /Hz 5 Hz to 20 Hz
	0.05 g ² /Hz 20 Hz to 100 Hz
	-3 dB/octave ... 100 Hz to 900 Hz
Operating Humidity	5% to 95% R.H. non-condensing, at +60 °C

PHYSICAL CHARACTERISTICS

Enclosure	Metal shield
Dimensions	2.54 mm T x 19 mm W x 19 mm L (0.75" W x 0.75" L x 0.1" H)
Weight	1.8 grams (0.06 ounce) including shield

PINOUT ASSIGNMENTS

1	GND	GND	28
2	GND	VCC	27
3	RFIN	GND	26
4	GND	External Reset	25
5	OPEN	GND	24
6	SHORT	Reserved	23
7	Reserved	Reserved	22
8	Reserved	Reserved	21
9	Reserved	GND	20
10	Reserved	PPS / Even Second	19
11	Reserved	GND	18
12	Reserved	TXD	17
13	Reserved	RXD	16
14	GND	GND	15

GENERAL INFORMATION & ACCESSORIES

Module	available as 20 piece module package for evaluation
	Production quantities on tape on reel (500 pieces)
Reference Board	GPS module mounted on a carrier board with I/O and RF connectors, including RF circuitry with the antenna open detection, as well as antenna short detection and protection.
Starter Kit	Includes Reference Board mounted on interface motherboard in a durable metal enclosure, AC/DC power converter, compact magnetic-mount GPS antenna, ultra-compact embedded antenna, USB interface cable, TSIP and NMEA protocols
Antennas	
	• Compact Magnetic Mount Mini magnet 5m, 5v SMB
	• Bullet III, F 5 V DC with 35 dB ga

See www.trimble.com/timing for part number information and where to buy.

Parts of this product are patent protected.

Trimble has relied on representations made by its suppliers in certifying this product as RoHS compliant.

Specifications subject to change without notice.

Trimble Navigation Limited is not responsible for the operation or failure of operation of GPS satellites or the availability of GPS satellite signals.

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