



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 NoiseMax 50 mV, peak-to-peak from 1 Hz to 1 MHz

ENVIRONMENTAL SPECIFICATIONS

Operating Temperature.....-40 °C to +85 °C
Vibration
0.008 g²/Hz 5 Hz to 20 Hz
0.05 g²/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)
Weight1.8 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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