Data Sheet

Mini-T™ GG Multi-GNSS Disciplined Clock

KEY FEATURES

- Multi-Constellation
- Simultaneous GPS and GLONASS tracking
- Extended temperature range (-40°C / +85°C)
- Holdover stability of ±5us over 24 hour period @ 25°C
- Small foot print and low profile, suited for digital broadcast and small cells
- PPS and 10MHz output
- T-RAIM (Disciplined Clock Autonomous Integrity Monitoring) provides high PPS integrity

Multi-GNSS Disciplined Clock
The Trimble® Mini-T™ GG is a multi-GNSS (GPS, GLONASS) Disciplined Clock, optimized to generate precise timing signal. Designed specifically for compact, high-volume applications. When operating in Over Determined Timing Mode the accuracy of pulse per second (PPS) is within 15 nanoseconds of GNSS/UTC.

Synchronization for next generation
The Mini-T™ GG gives OEMs the opportunity to embed a low-cost precise time and frequency reference, in our smallest form-factor yet.
Trimble created the Mini-T™ GG using clock technology proven in generations of deployed units used in 4G networks (LTE, WiMAX, HSPA+) and digital broadcasting applications. It utilizes the latest in GNSS technology, combined with a precision ovenized oscillator for near atomic clock precision timing

Standard timing feature
The Mini-T™ GG includes many of Trimble's standard timing features, including the Disciplined Clock Autonomous Integrity Monitoring (T-RAIM) algorithm, and automatic self-survey. The Mini-T™ GG is factory default with the TSIP protocol that follows specific timing products and applications

Proven Reliability
The Mini-T™ GG offers proven reliability and performance, will exceed your expectations, and enable you to provide your customers with the highest quality GNSS solution available today

The Mini-T™ GG GNSS Clock Board is offered with a standard 10 MHz output, but it is also available in custom frequencies.

Trimble

MINI-T™ GG MULTI-GNSS DISCIPLINED CLOCK

GENERAL SPECIFIATIONS

Receiving Signal……GPS L1 & GLONASS G1
Positioning System……SPS, Timing
Acquisition Channels……..24 Channels
Tracking Channels……..24 Channels
1 PPS Timing Accuracy ……15 ηs (1 sigma)
Holdover Stability……<±5us over 24Hr period @ 25°C
Horizontal Position Accuracy……<6m (50%), <9m (90%)
Vertical Position Accuracy…….<11m (50%), <18m (90%)
Update Rate……1 Hz
Data Format……TSIP or NMEA
Typical Min Acq Sensitivity……-150dBm cold start
Typical Min Tracking Sensitivity …… -160dBm
Time to First Fix……<46s (50%), <50s (90%) cold start
Typical Time to Re-acquisition…… <2s (90%)

INTERFACE CHARACTERISTICS

Serial Port……1 serial port
PPS / Even Second……CMOS-compatible
TTL-level pulse, once per second
Protocols……TSIP, NMEA 0183
GNSS Input Connector……SMA
PPS Out……SMA
Frequency Out……SMA
I/O Connector……2x15 Pin

OSCILLATOR SPECIFICATIONS

Frequency Output……10MHz
Phase Noise……-90dBc/Hz @ 1Hz
-120dBc/Hz @ 10Hz
-135dBc/Hz @ 100Hz
-145dBc/Hz @ >1KHz

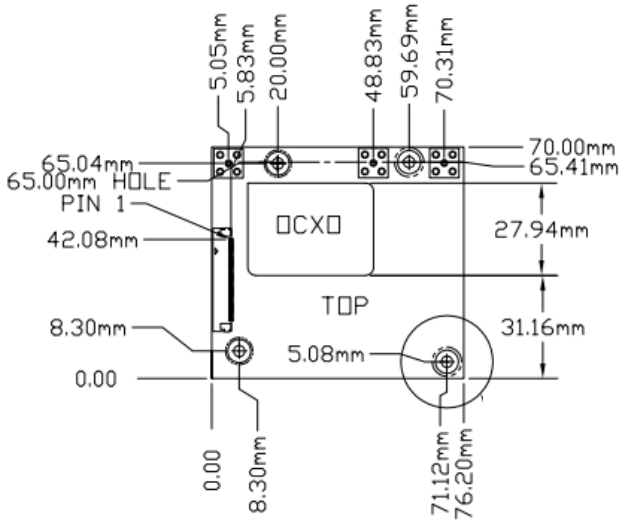
ELECTRICAL CHARACTERISTICS

Supply Voltage Range…… 5.5V DC ±5%

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%-95% RH non-condensing (+60°C)

MECHANICAL DRAWING



GENERAL INFORMATION & ACCESSORIES

Bullet GG, 5V DC with 32 dB gain

Visit www.trimble.com/timing for part numbers and information about where to buy.

Parts of the product are patent protected.

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

NORTH AMERICA
Trimble Navigation Limited
Corporate Headquarters
935 Stewart Drive
Sunnyvale, CA 94085
Phone: +1 703 237 7400
timing@trimble.com

EUROPE
Trimble Navigation Europe
Phone: +4670-544-1020

KOREA
Trimble Export Ltd. Korea
Phone: +82-2-555-5361

CHINA
Trimble Navigation Ltd. China
Phone: +86-10-8857-7575

Trimble
www.trimble.com