

GF-180TC

GPS-steered Frequency Generator(TCXO)

The GF-180TC is ultra compact and low cost GPS-steered Frequency Generator. It has VCTCXO as a base oscillator, which is overwhelmingly ultra compact and low cost comparing with OCXO. High stability frequency is generated with locking on the timing signal from GPS receiver. The GF-180TC Receives GPS signals and generates 1PPS (pulse per second) synchronized with UTC as well as 10MHz sine wave and square wave coherent to 1PPS. In "Fixed Observation Point Mode", one satellite signal is enough to output accurate 1PPS and 10MHz. The crystal oscillator is maintenance-free. The integration of GPS receiver and Crystal Oscillator realizes small footprint. It allows you to easily mount on the motherboard.

▶ Ultra compact/Low cost

The integration of GPS receiver and crystal oscillator realizes ultra compact size and low cost.

▶ GPS

The GF-180TC has Furuno built-in Time Transfer GPS receiver (equivalent to the GT-80). The chip is mounted directly on the board and the GPS CPU performs integrated control TCXO.

▶ TCXO

The GF-180TC adapts TCXO (Temperature compensated crystal oscillator). The accuracy by itself is 10^{-6} approx. (1ppm). The excellent high accuracy is realized by the combination with GPS.

▶ Coherency

The GF-180TC realizes the coherency within ± 10 ns accuracy between the falling edge of 1PPS and the zero crossing of 10MHz.

▶ Fixed Observation Point Mode

If the GF-180TC is operated at the fixed position such as the base station and the transmitting station, the GPS receiver calculates its position and then use the averaged position for 5hours after power-on as fixed observation point.

▶ RoHS compliant

▶ Customizable

The GF-180TC is customizable to meet customer demands depending on applications. Please feel free to contact if you need different of frequency or frequency accuracy.

Furuno GPS lineup

- Time Transfer GPS Receiver: GT-80
- GPS Receiver with Integrated Antenna: GH-84
- GPS Receiver for Automotive Telematics: GN-84A/E
- GPS Antenna: AU-117 (Operational in high electrical field or heavy snowfall area)

Specifications

1PPS

- Synchronized with UTC (USNO)
- Waveform: Pulse
- DUTY: 50%
- Output from IF connector
- Timing accuracy: ± 4 - f.k.Yl) ka_e Y

10MHz

- Waveform: Sine wave/Square wave
- Output from IF connector
- Frequency accuracy: $\pm 1.0 \times 10^{-11}$ (For 24 hours average)
- Short term stability: $\pm 5 \times 10^{-10}$ (Root Allan Variance)
- Hold over $\pm 5.0 \times 10^{-10}$

Stabilization time

- Within 15 minutes after power-on

Serial interface

- Management port LVTTTL NMEA-0183
- TOD (Time of data)

GPS

- Receiving frequency: 1575.42MHz
- Tracking code: C/A code
- Tracking channel: 12ch
- Tracking method: Parallel (all-in-view)
- Positioning: Stand alone positioning

Others

- Alarm output: LVTTTL output
- Supply voltage: 3.3VDC
- Power consumption: 150mA(typ)
- Dimensions(mm): 51(W) \times 51(D) \times 16(H)
- Weight: 50g approx.
- Operation temperature: -30°C to $+80^{\circ}\text{C}$

Application

- Mobile phone base station 3G / 3.5G / LTE
- Wireless broadband, Mobile WiMAX
- Digital Terrestrial broadcasting satellite station
- Train radio system
- Wireless base station

Evaluation kit

Evaluation kit is available. You can easily evaluate this product performance. Please feel free to contact the following contact point.

SPECIFICATIONS SUBJECT TO CHANGE WITHOUT NOTICE

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