

PLL Part No: PT626-1005-GPS

Issue 3; 27th January 2023

Features

- Temperature stability locked to ± 0.001 ppb long term
- Low phase noise
- Frequency range 10MHz
- Low pre-aged options available.
- SMA connector interface.
- The flexible nature of the design means that variations to suit almost any application can be developed to meet individual customer requirements

Specifications

- Temperature stability unlocked: ± 20 ppb over $(-40$ to $70)^{\circ}\text{C}$
- Output: Sinewave 7dBm
- Voltage: 5.0V 12V
- Warm Up Current: 750mA 330 mA
- Quiescent current: 430mA 190 mA

Phase Noise (typical)

- $F_0+10\text{Hz}$ -120 dBc/Hz
- $F_0+100\text{Hz}$ -140 dBc/Hz
- $F_0+1\text{KHz}$ -155 dBc/Hz
- $F_0+10\text{KHz}$ -165 dBc/Hz
- $F_0+100\text{KHz}$ -168 dBc/Hz

Voltage/ Load change

- $\pm 5\%$ supply voltage change: ± 2 ppb
- $\pm 10\%$ load change: ± 5 ppb

Ageing

Based on 10MHz unit after 30 days continuous operation:

- Per day: ± 0.1 ppb max.
- Per year: ± 50 ppb max.
- Warm up time: 5 minutes to within 1 ppm

1pps accuracy

- ± 50 ns

Antenna

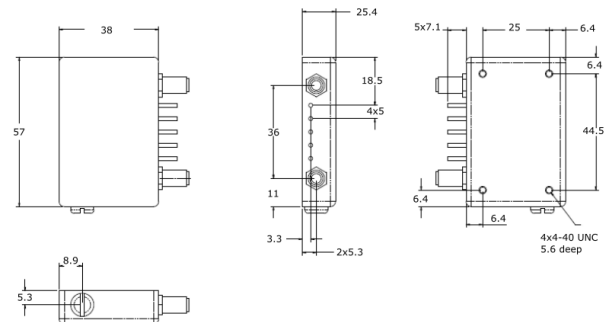
- Typical Gain 25 dBm

Environmental

- Electrostatic-Sensitive Device (ESD)
- Storage Temperature Range: $(-40$ to $+125)^{\circ}\text{C}$
- Mechanical shock: MIL standard 202F, method 213, condition J
- Thermal shock: MIL standard 202F, method 107, condition A



Dimensions (mm)



GPS antenna

- #1 Lock 1
- #2 Lock 2
- #3 Vcc
- #4 1 pps
- #5 ground
- RF out

Typically active GPS antenna
Gain 25 dBm including cable loss

Lock Status

| Lock 1 | Lock 2 | Status |
|----------|----------|-----------------------|
| low | low | no status |
| high/low | low/high | power up test OK |
| high | low | GPS satellite detect |
| low | high | GPS Lock |
| high | high | Full operational lock |

- Vibration: MIL standard 202F, method 204, condition B
- Solderability: 5 seconds maximum at 230°C
- 3 seconds maximum at 350°C

Compliance

- RoHS Status (2011/65/EU) - Compliant
- REACH Status - Compliant

Packaging

- Pack Style: Bulk

Ordering Information

- Unique customer part number and custom specification issued with each application
- PLL Part No.: PT626-1005-GPS
- Operating Voltage, 5V or 12V

Test Circuit - Sinewave

