

## PLL Part No: PT1300-1005-GPS

Issue 2; 29th April 2022

### Features

- Temperature stability locked to  $\pm 0.001$  ppb long term
- Low phase noise
- Frequency range 10MHz
- Low pre-aged options available
- Small surface mount package
- 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:  $\pm 20$ ppb over  $(-40$  to  $70)^{\circ}\text{C}$
- Output: Sinewave 7dBm
- Voltage: 5.0V
- Warm Up Current: 540mA
- Quiescent current: 270mA

### 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:  $\pm 2$ ppb
- $\pm 10\%$  load change:  $\pm 5$ ppb

### Ageing:

Based on 10MHz unit after 30 days continuous operation:

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

### 1pps accuracy:

- $\pm 50$  ns

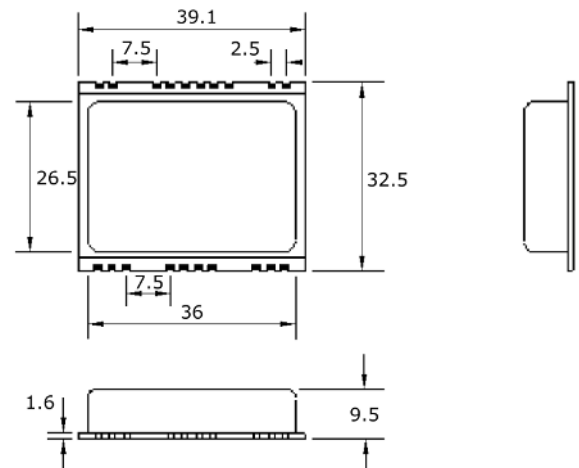
### Antenna reference (If used)

- 3V

### Environmental

- Electrostatic-Sensitive Device (ESD)
- Storage Temperature Range:  $(-40$  to  $1+25)^{\circ}\text{C}$
- Mechanical shock: MIL standard 202F, method 213, condition J
- Thermal shock: MIL standard 202F, method 107, condition A

### Dimensions (mm)



#1 ground	#20 Vcc
#2 antenna	#19 1 pps
#3 ground	#18 N/C
#4 antenna bias	#17 N/C
#5 d.c bias out	#16 N/C
#6 ground	#15 N/C
#7 NMEA (CMOS RS232)	#14 N/C
#8 ground	#13 N/C
#9 RF out	#12 lock 2
#10 ground	#11 lock 1

### Lock Status

Lock 1	Lock 2	
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.: PT1300-1005-GPS

#### Test Circuit - Sinewave

