

# GPSDO

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### Module Specifications

|  |  |
|--|--|
| 1 PPS Accuracy                         | ±50ns to UTC RMS (1-Sigma) GPS Locked                    |
| Holdover Stability                     | <±11?s over 3 hour period at +25C                        |
| 1 PPS Output (OCXO Flywheel Generated) | 3.3VDC CMOS  |
| RS-232 Control                         | NMEA & SCPI-99 Control Commands, Integrated into UHD     |
| GPS Frequency                          | L1, C/A 1574MHz  |
| GPS Antenna                            | Active (3V compatible) or Passive                        |
| GPS Receiver                           | 50 Channels, Mobile, WAAS, EGNOS, MSAS capable           |
| Sensitivity                            | Acquisition -144dBm, Tracking -160dBm                    |
| TTFF                                   | Cold Start: <45 sec, Warm Start: 1 sec, Hot Start: 1 sec |
| ADEV                                   | 1E-11 at 1s  |
| Warm Up Time / Stabilization Time      | <5 min at +25C to 1E-08 Accuracy                         |
| Supply Voltage (Vdd)                   | 6VDC   |
| Power Consumption                      | <1.8W Max, 1.35W Typical                                 |
| Operating Temperature                  | 0C to +60C   |
| Storage Temperature                    | -45C to 85C  |

### Oscillator Specifications

|   |                             |
|---|-----------------------------|
| Frequency Output  | 10MHz                       |
| Stability   | ±1E-08 after 1 hour at 25°C |
| Frequency Stability Over Temperature (Unlock Condition) | ±5E-08                      |
| Warm Up Time  | ±1 min at +25C              |
| Phase Noise   | -80dBc/Hz at 100Hz          |
|   | -110dBc/Hz at 1kHz          |
|   | -135dBc/Hz at 10MHz         |
|   | -145dBc/Hz at 1kHz          |
|   | <-145dBc/Hz at 10kHz        |

Media:gpsdo-kit 4.pdf

- X300/X310

### Module Specifications

|  |  |
|--|--|
| 1 PPS Accuracy                         | ±50ns to UTC RMS (1-Sigma) GPS Locked                |
| Holdover Stability                     | <±20?s over 3 hour period at +25C                    |
| 1 PPS Output (OCXO Flywheel Generated) | 3.3VDC CMOS  |
| RS-232 Control                         | NMEA & SCPI-99 Control Commands, Integrated into UHD |
| GPS Frequency                          | L1, C/A 1574MHz                                      |
| GPS Antenna                            | Active (5V compatible) or Passive                    |
| GPS Receiver                           | 50 Channels, Mobile, WAAS, EGNOS, MSAS capable       |

|                                   |  |
|-----------------------------------|--|
| Sensitivity                       | Acquisition -142dBm, Tracking -168dBm                    |
| TTF                               | Cold Start: <45 sec, Warm Start: 1 sec, Hot Start: 1 sec |
| ADEV                              | 1E-11 at 1s  |
| Warm Up Time / Stabilization Time | <5 min at +25C to 1E-08 Accuracy                         |
| Supply Voltage (Vdd)              | 3.3/5VDC   |
| Power Consumption                 | 0.7W Max   |
| Operating Temperature             | 0C to +60C   |
| Storage Temperature               | -45C to 85C  |

**Oscillator Specifications**

|                       |   |
|-----------------------|---|
| Frequency Output      | 10MHz   |
| Stability             | ±5E-08 after 1 hour at Reference Temperature (Unlock Condition) |
| Warm Up Time          | 1 min at +25C   |
| Phase Noise at 10MHz  | -75dBc/Hz   |
| Phase Noise at 100kHz | -110dBc/Hz  |
| Phase Noise at 1MHz   | -132dBc/Hz  |
| Phase Noise at 1kHz   | -142dBc/Hz  |
| Phase Noise at 10kHz  | <-145dBc/Hz   |

• Media:GPSDO Jackson Labs LCXO and FireFly1A CoV.pdf

• B200/B210

**Module Specifications**

|  |  |
|--|--|
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| 1 PPS Output (OCXO Flywheel Generated) | 3.3VDC CMOS  |
| RS-232 Control                         | NMEA & SCPI-99 Control Commands, Integrated into UHD     |
| GPS Frequency                          | L1, C/A 1574MHz  |
| GPS Antenna                            | Active (5V compatible) or Passive                        |
| GPS Receiver                           | 50 Channels, Mobile, WAAS, EGNOS, MSAS capable           |
| Sensitivity                            | Acquisition -142dBm, Tracking -168dBm                    |
| TTF                                    | Cold Start: <45 sec, Warm Start: 1 sec, Hot Start: 1 sec |
| ADEV                                   | 1E-11 at 1s  |
| Warm Up Time / Stabilization Time      | <5 min at +25C to 1E-08 Accuracy                         |
| Supply Voltage (Vdd)                   | 3.3V   |
| Power Consumption                      | 0.5W Max   |
| Operating Temperature                  | 0C to +60C   |
| Storage Temperature                    | -45C to 85C  |

**Oscillator Specifications**

|                       |   |
|-----------------------|---|
| Frequency Output      | 10MHz   |
| Stability             | ±5E-08 after 1 hour at Reference Temperature (Unlock Condition) |
| Warm Up Time          | 1 min at +25C   |
| Phase Noise at 10MHz  | -65dBc/Hz   |
| Phase Noise at 100kHz | -102dBc/Hz  |
| Phase Noise at 1MHz   | -132dBc/Hz  |
| Phase Noise at 10kHz  | <-152dBc/Hz   |

• Media:GPSDO Jackson Labs LCXO and FireFly1A CoV.pdf

Manufacturer: Samtec

PN: BBL-115-G-E

- <https://www.samtec.com/products/bbl-115-g-e>
- **Datasheet:** File:JP6 JP7 pins.pdf