



RFS5: Low Phase Noise Rubidium Oscillator

Description

The RFS5 is a high quality rubidium oscillator module. Intended for OEM applications, the RFS5 provides a very accurate 10 MHz output signal.

A special feature of the RFS5 is its small size and low power consumption. Its size is 74 x 74 x 40 mm and operates from 12V with a typical power consumption of < 10 watts @ 25 °C.

Specifications

Output

- Output frequency 10 MHz sine wave (optional HCMOS)
- Amplitude: + 7 dBm
- Phase noise (SSB) < -70 dBc/Hz (1 Hz offset), -80 dBc/Hz (10 Hz), < -115 dBc/Hz (100 Hz), < -135 dBc/Hz (1 kHz), < -140 dBc/Hz (10 kHz)
- Harmonics: -25 dBc. Sub-Harmonics - 60 dBc.
- Accuracy at shipment $\pm 5 \times 10^{-11}$
- Aging (after 30 days) < $2 \times 10E^{-11}$ (24 hours), < $5 \times 10E^{-11}$ (monthly), < $2 \times 10E^{-9}$ (yearly)
- Short-term stability < $3 \times 10E^{-11}$ (1 s), < $1 \times 10E^{-11}$ (10 s), < $3 \times 10E^{-12}$ (100 s)
- Holdover 72 hour Stratum 1 level
- Frequency retrace $\pm 1 \times 10E^{-10}$
- Settability < $1 \times 10E^{-11}$
- Trim range $\pm 4 \times 10E^{-9}$ (2 to 4 VDC)
- Warm-up time 5×10^{-10} after 15 minutes

Electrical

- Input voltage +11.2 VDC to +16 VDC
- Current 3 A (warm-up), 0.83 A @ 25 °C
- Tune Line Input: 0 – 5V
- Lock Monitor output

Environmental

- Operating temperature -50 °C to +60 °C
- Temperature stability $\pm 5 \times 10E^{-10}$
- Storage temperature -55 °C to +90 °C
- Magnetic field < $4 \times 10E^{-11}$ for 1 Gauss field reversal
- Shock / Vibration: MIL-T-28800B for type 3 class5 equipment
- EMI Compliant to FCC Part 15. Class B

Miscellaneous

- Size : 74 mm (depth) x 74 mm (wide) x 40 mm (high)
- MTBF: > 100000 hours
- RoHs: Compliant
- Warranty: Electronics 1 year. Lamp & Cell: 15 years.

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Full specifications available from www.ptsyst.com. Specifications and features subject to change without notice (091023)