



RFS6: Low Phase Noise Rubidium Oscillator

Description

The RFS6 is a high-quality, low-cost rubidium oscillator module. Intended for OEM applications, the RFS6 provides a very accurate 10 MHz output signal.

A special feature of the RFS6 is its small size and low power consumption. Its size is 2 x 2 x 1 inches or 51 x 51 x 25 mm and operates from 12V with a typical power consumption of 6 watts.

Many options are available for the RFS2.

Specifications

Output

- Output frequency 10 MHz sine wave or LVCMOS
- Amplitude: + 7 dBm (+10 dBm typical)
- Phase noise (SSB) < -60 dBc/Hz (1 Hz offset), -80 dBc/Hz (10 Hz), < -115 dBc/Hz (100 Hz), < -130 dBc/Hz (1 kHz), < -130 dBc/Hz (10 kHz)
- Harmonics: -30 dBc. Spurious - 60 dBc.
- Accuracy at shipment $\pm 5 \times 10^{-11}$
- Aging (after 30 days) < 4×10^{-12} (24 hours), < 5×10^{-11} (monthly), < 5×10^{-10} (yearly)
- Short-term stability < 5×10^{-11} (1 s), < 2×10^{-11} (10 s), < 8×10^{-12} (100 s)
- Frequency retrace $\pm 5 \times 10^{-11}$
- Settability < 1×10^{-11}
- Trim range 0 – 5V > 5×10^{-9}
- Warm-up time 5 minutes to lock.

Electrical

- Input voltage +12 VDC
- Current 1.5 A (warm-up), 0.5 A @ 25 °C
- 1pps input or Tune Line Input: 0 – 5V
- Lock Monitor output

Environmental

- Operating temperature –10 °C to +75 °C (-40 to +80 °C optional)
- Temperature stability $\pm 3 \times 10^{-10}$
- Storage temperature –55 °C to +85 °C

Miscellaneous

- Size: 1 mm (depth) x 51 mm (wide) x 25 mm (high)
- MTBF: > 100000 hours
- RoHS: Compliant
- Lamp Life: Up to 20 years

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Specifications subject to change without notice (091023)