



Description

- The IQRB-2 low noise rubidium oscillator is a sub-miniature atomic oscillator combined with 'active noise filter' technology. This rubidium oscillator has 100 times less drift than OCXOs and with short term stability of 0.002ppb/s at 100s this rubidium oscillator provides significant improvements in performance over other rubidium components.
- Model IQRB-2
- Model Issue number 1

Frequency Parameters

- Frequency 10.0MHz
- Frequency Tolerance ± 0.05 ppb
- Tolerance Condition @ 25°C
- Frequency Stability ± 0.30 ppb
- Operating Temperature Range -20.00 to 65.00°C
- Short Term Stability (AVAR):
 - 1s 0.003ppb max
 - 10s 0.005ppb max
 - 100s 0.002ppb max
 - 1hr 0.006ppb max
- Ageing:
 - Day 0.005ppb max
 - Month 0.05ppb max
- Magnetic Field Sensitivity: ± 0.02 ppb/Gauss
- Retrace: ± 0.03 ppb

Electrical Parameters

- Supply Voltage 12.0V
- Device will operate over the supply voltage range: 12V to 18V
- Power Consumption (@ 25°C):
 - Warm-Up: 22W max
 - Steady State: 6W
- Warm-Up Time: 5mins to lock at 25°C
- Lock Monitor: Pin 4 is high (5V) when out of lock and low (0V) when locked.

Frequency Adjustment

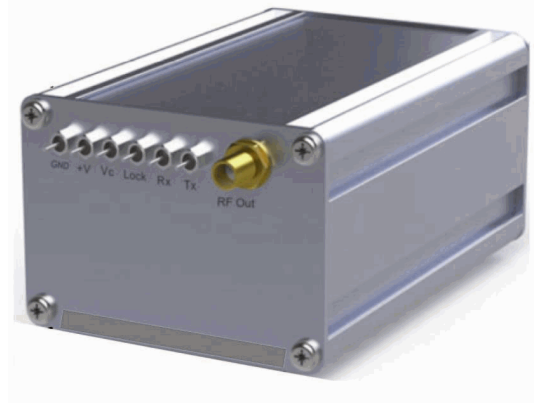
- Pulling ± 2 ppb max
- Control Voltage 0V to 5V

Output Details

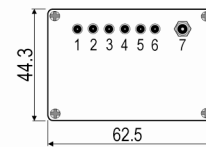
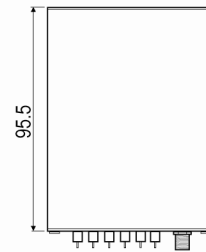
- Output Compatibility Sine
- Drive Capability 50Ω
- Output Levels: 5dBm to 9dBm
- Output Connector Type: SMA
- Rx and Tx connections for RS232 communication of the status of the oscillator.

Noise Parameters

- Phase Noise (typ):
 - 112dBc/Hz @ 1Hz
 - 138dBc/Hz @ 10Hz
 - 152dBc/Hz @ 100Hz
 - 155dBc/Hz @ 1kHz
 - 158dBc/Hz @ 10kHz
- Harmonics: -30dBc max
- Spurious Level: 80dBc max



Outline (mm)



- Connections:
1. GND
 2. +Vs
 3. Voltage Control
 4. Lock monitor
 5. Rx (RS232)
 6. Tx (RS232)
 7. RF output (SMA connector)

Sales Office Contact Details:

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Environmental Parameters

- Atmospheric Pressure: 1×10^{-13} mbar max
- Humidity (non-condensing): 90%
- Storage Temperature Range: -40 to 85°C

Manufacturing Details

- MTBF (Stationary): Approx 100000hrs
- Note: Not suitable for reflow soldering.

Compliance

- RoHS Status (2011/65/EU) Compliant
- REACH Status Non-Compliant
- MSL Rating (JDEC-STD-033): Not Applicable

Packaging Details

- Pack Style: Bulk Bulk pack
Pack Size: 1
- *Alternative packing option available*

Technical Notes

- *RoHS Compliance: 5/6*

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