

RUBIDIUM OSCILLATOR



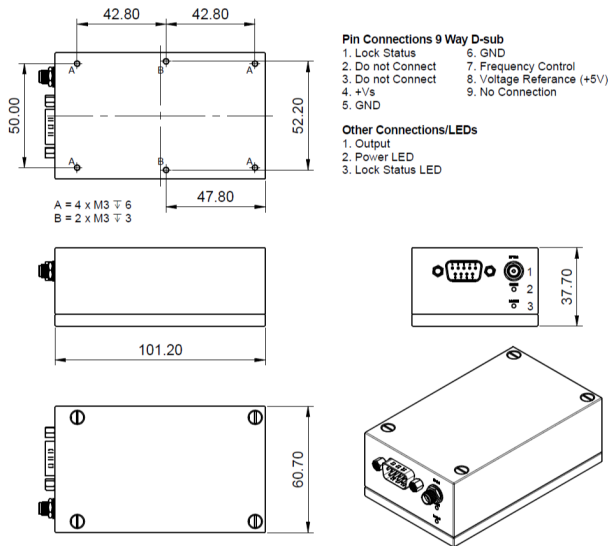
Part Number: 830907628902 | IQRB-2

AKA Number: LFRBX0076289B

General Information

The IQRB-2 rubidium atomic clock oscillator provides a low noise, tight stability frequency reference.

Dimensions [mm]



Frequency Parameters

Frequency	10.0 MHz
Frequency Tolerance	± 0.05 ppb @ 25 °C
Frequency Stability	± 0.3 ppb typ. (Temperature varied across the operating temperature range, measurement referenced to frequency observed with $f_{ref} = (\Delta f_{max}/f_{min})/2$)
Operating Temperature	-20 °C to 60 °C
Ageing	(after 30 days)
± 0.005 ppb	max/day
± 0.05 ppb	max/month
± 0.5 ppb	max/year
Retrace:	± 0.02 ppb typ

Output Details

- Output Level: +7 dBm ± 2 dBm
- Drive Capability: 50 Ω
- Output Connector Type: SMA

Electrical Parameters

Supply Voltage	12 V - 0 V / + 3 V
Supply Voltage	12 V
■ Note: The device will operate over the Supply Voltage Range 12 V to 15 V	
■ Start-up Current ($V_s = 12$ V, @ 25 °C): 2.5 A max	
■ Steady State Current ($V_s = 12$ V, 25 °C ambient): 0.5 A max	
■ Warm Up Time: 5 mins typ to lock @ 25 °C	
■ Lock Status: Pin 1 is high (3.3 V) when out of lock and low (0 V) when locked.	

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Frequency Adjustment

Pulling Total Pulling ± 2 ppb min.

Control Voltage 2.5 V $\pm$ 2.5 V

Input Impedance 10 k Ω min.

Note: If no voltage is applied to the control voltage (Pin 7) it will be internally set to 2.5 V. If a voltage is applied (even GND) to Pin 7, the oscillator will accept the external control voltage input.

Material Parameters

These products need to maintain thermal stability to obtain optimum performance. Mounting the device in direct contact to a chassis may cause detrimental heat sink effect, it is recommend to mount the device with >1mm clearance from the base. Avoid airflow and do not attempt to mount heat sink to the device.

Moisture Sensitivity Level (MSL) Not Applicable

Noise Parameters

■ Short Term Stability (ADEV) typ

1 s 5.5E-11

10 s 7.1E-12

100 s 7.5E-12

■ Phase Noise (typ)

-108 dBc/Hz @ 1 Hz

-134 dBc/Hz @ 10 Hz

-152 dBc/Hz @ 100 Hz

-155 dBc/Hz @ 1 kHz

-158 dBc/Hz @ 10 kHz

-157 dBc/Hz @ 100 kHz

■ Harmonics: -30 dBc max

■ Spurious: -80 dBc max

Environmental Parameters

Storage Temperature Range: -40 °C to 85 °C

■ Mechanical Shock: IEC 60068-2-27, Test Ea: Acceleration of 50 G peak amplitude for 11ms duration

■ Vibration: IEC 60068-2-06, Test Fc: 1 Hz-55 Hz 1.5 mm displacement, 55Hz-500Hz 10 G acceleration

■ Atmospheric Pressure: -60 m to 4000 m: 1E-16 bar max

■ EMI: Compliant to FCC Part 15, Class B

■ Magnetic Field Sensitivity: ± 2 E-11/Gauss

Certification

RoHS Standard(s) 2015/863/EU

RoHS Status Compliant

Packaging Details

Packaging SPQ Bulk 1 pcs

Technical Notes

RoHS Compliance: 6/6

Company Address

IQD Frequency Products Ltd.
Station Road
Crewkerne
Somerset
TA18 8AR, United Kingdom