

Quartzlock A10-Y

Ultra Low Noise Rubidium Oscillator



**Uses Quartzlock
Digital PLL DDS
Clean-up Loop
technology**

-173 dBc/Hz noise floor

STANDARD SPECIFICATIONS

Output	10MHz, +7dBm into 50Ω, 0.5VRMS	
Adjustment		
Mechanical Range	2x10 ⁻⁹ min	
Electrical Range	2x10 ⁻⁹ min	
Control Voltage	0 ~ 5V	
Factory Setting	±5x10 ⁻¹¹	
Frequency Stability	Low Noise	Ultra Low Noise
100ms	<1x10 ⁻¹²	x10 ⁻¹³
1s	<1x10 ⁻¹²	x10 ⁻¹³
10s	<1x10 ⁻¹²	x10 ⁻¹³
100s	4x10 ⁻¹³	<4x10 ⁻¹³
1day	x10 ⁻¹²	x10 ⁻¹³
Aging	Low Noise	Ultra Low Noise
1 day	1x10 ⁻¹²	x10 ⁻¹³
1 month	4x10 ⁻¹¹	4x10 ⁻¹¹
1 year	5x10 ⁻¹⁰	5x10 ⁻¹⁰
Phase Noise dBc/Hz	Low Noise	Ultra Low Noise
1Hz	-110	-115
10Hz	-139	-148
100Hz	-157	-158
1kHz	-162	-165
10kHz	-168	-170
100kHz	-170	-173
Harmonics	<40dBc	
Spurious	<80dBc	
Warm time to 1x10⁻⁹	5min	
Retrace after 24h off & 1h on, same temp	<3x10 ⁻¹¹	
Power Supply		
Power at steady state at 25°C	13W @ 24V (22~30Vdc) @ 25°C, Max 2A	
Freq offset over output voltage range	<2x10 ⁻¹¹	
Temperature		
Operating	-20°C ~ +50°C (option to +65°C output maintained – not to full spec)	
Storage	-40°C ~ +70°C	
Freq offset over operating temperature range	<3x10 ⁻¹⁰	
Magnetic Field		
Sensitivity	<2x10 ⁻¹¹ /Gauss	
Atmospheric Pressure	-60m ~ 4000m <1x10 ⁻¹³ /mbar	
Approx MTBF, Stationary	Approx MTBF, Stationary	
Mechanical	40x94x206mm, 1000g approx 1.6"x3.7"x8.1", 35oz approx	

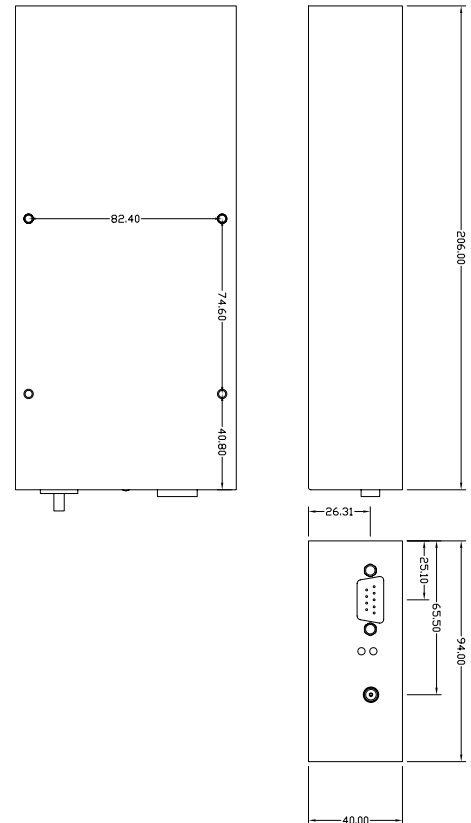
PIN CONNECTIONS

C1: 'D' 9 Pin Male

C2: SMA RF Output

- 1.
- 2.
- 3.
- 4.
- 5.
- 6.
- 7.
- 8.
- 9.

OUTLINE DRAWING



LOCK INDICATOR

on	not locked
off	locked, low phase error
short flash every second:	locked, high phase error
long flash, short flash	no processor clock

INTERFACE

9.6kbaud, RS232, PC compatible, Windows front end program

INTERFACE CODES

see separate document

OPTIONS

Alternate output frequencies from 1MHz to 40MHz

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