

CFPO-2H Ultra Low Phase Noise & High Stability OCXO

ISSUE 8; 27 NOVEMBER 2008 - RoHS 2002/95/EC

Description

- Ultra low phase noise and high stability Oven Controlled Oscillator (OCXO) manufactured for us by Rakon

Package Outlines

- 50.8 x 50.8 x 38mm (50B)
- 67 x 60 x 40mm (67A)

Standard Frequencies

- 5, 10MHz

Output Compatibility & Load

- Sine 5 dBm typical into 50Ω

Operating Temperature Range

- 10 to 70°C

Storage Temperature Range

- 55 to 90°C

Supply Voltage Options

- Standard: 12V (12)
- Optional: 15V (15), 24V (24)

Input Current @ 12V (Power Consumption)

- Warm up: $\leq 700\text{mA}$ ($< 8.5\text{W}$)
- @ 25°C: $\leq 250\text{mA}$ ($< 3.0\text{W}$) (calm air)

Warm Up Time @ 25°C (typical)

- $\leq \pm 1 \times 10^{-8}$ after 15 minutes (calm air)

Retrace after 24 hours off @ 25°C

- $\leq \pm 5 \times 10^{-9}$ after 60 minutes

Harmonic Distortion

- $\leq 30\text{dBc}$

Phase Noise @ 10.0MHz (sine output)

- 10Hz ≤ -120 dBc/Hz
- 100Hz ≤ -152 dBc/Hz
- 1kHz ≤ -160 dBc/Hz
- 10kHz ≤ -165 dBc/Hz

Environmental (non-operating)

- Shock: 50g for 11ms
- Vibration: 10g for 10 to 500Hz

Weight/Mass

- $\leq 280\text{g}$ (50B)
- $\leq 350\text{g}$ (67A)

Marking Includes

- Model Number + Frequency + Serial Number + Date Code

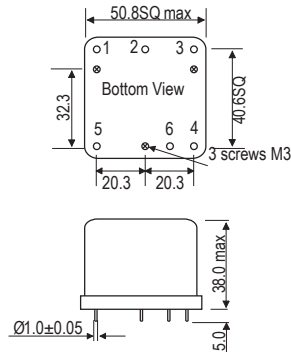
Packaging

- Bulk

Minimum Order Information Required

- Frequency + Model Number + Package Outline + Supply Voltage + Oven Alarm (if applicable)

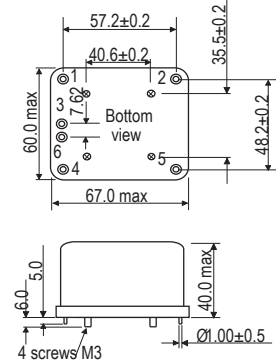
Outline (mm) - Package 50B



Pin	Function
1	Input frequency control
2	Output reference voltage
3	Output signal
4	Mechanical ground
5	Supply Voltage (+)
6	Oven Alarm

All tolerances $\pm 0.2\text{mm}$

Outline (mm) - Package 67A



Pin	Function
1	Output Signal
2	Output reference voltage
3	Mechanical GND
4	Input frequency control
5	Supply Voltage (+)
6	Oven alarm

All tolerances $\pm 0.2\text{mm}$

Electrical Specification - maximum limiting values

Operating Temperature Range	Stability within Temperature Range pk to pk	Long Term Stability @ 25°C after 30 days operation			Frequency Adjustment from 0V to V Ref* (pk-pk)	Frequency Stability Vs Supply Voltage Change (±5%) and Load Change (50Ω ±10%)	Model Number	
		Per Day	Per Month	Per Year				
-10 to 70°C	≤2x10 ⁻¹⁰	≤±3x10 ⁻¹¹	≤±1x10 ⁻⁹	≤±8x10 ⁻⁹	≥4x10 ⁻⁷	≤±1x10 ⁻¹⁰	CFPO-2 H1	
		≤±7x10 ⁻¹¹	≤±2x10 ⁻⁹	≤±1.5x10 ⁻⁸			≥6x10 ⁻⁷	CFPO-2 H2
		≤±1.5x10 ⁻¹⁰	≤±4x10 ⁻⁹	≤±2.5x10 ⁻⁸			≥8x10 ⁻⁷	CFPO-2 H3

Ordering Example CFPO-2-H3 50B 12 A 10.0MHz

Model _____

Package outline (50B) (67A) _____

Supply Voltage (12) (15) (24) _____

Oven Alarm Option (A) _____

Frequency (MHz) _____

*Voltage Reference: +8.0V ±0.2V

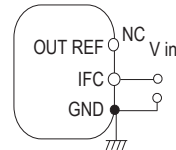
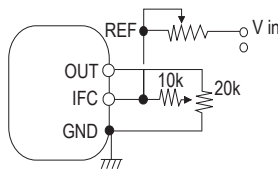
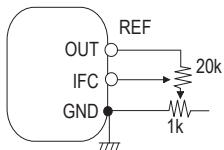
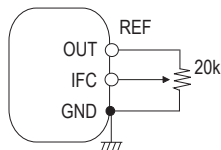
External Frequency Adjustment

Manual freq. adjust.
Settability ≤ 1 x 10⁻⁸

Fine manual freq. adjust.
Settability ≤ 1 x 10⁻¹⁰

Freq. control voltage and manual adjust

Ext. freq. control voltage



All potentiometers must be 10 turns type with temperature coefficient 50ppm/°C

OCX05