

CFPO-4 High Stability OCXO

ISSUE 5; 1 NOVEMBER 2008 - RoHS 2002/95/EC

Description

- High stability Oven Controlled Crystal Oscillator OCXO manufactured for us by Rakon

Package Outlines

- 40 x 30 x 20mm (40)
- 51 x 41 x 25mm (51)
- 50.8 x 50.8 x 25mm (50)

Frequency Ranges

- 2 to 16.384MHz (CFPO-4, A1, A2)
- 2 to 40MHz (CFPO-4, A3, A4)

Output Compatibility & Load

- Sine \geq 3 dBm into 50 Ω (S)
- HCMOS (C)

Operating Temperature Range

- 20 to 75°C

Storage Temperature Range

- 55 to 90°C

Supply Voltage

- Standard: 12V (12)
- Optional: 9V (9), 15V (15)

Input Current @ 12V (Power Consumption)

- Warm up: \leq 500mA (\leq 6W)
- @ 25°C: \leq 150mA (\leq 1.8W) (calm air)

Warm Up Time @ 25°C (typical)

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

Retrace after 24 hours off @ 25°C

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

Phase Noise @ 10.0MHz (sine output)

- 10Hz \leq -115 dBc/Hz
- 100Hz \leq -135 dBc/Hz
- 1kHz \leq -150 dBc/Hz
- 10kHz \leq -155 dBc/Hz

Environmental (non-operating)

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

Weight/Mass

- \leq 80g (51)
- \leq 100g (50)

Marking Includes

- Model Number (including options) + Frequency + Serial Number + Date Code

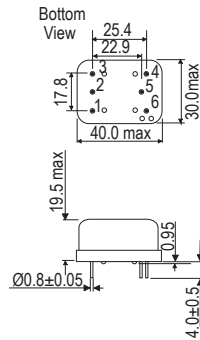
Packaging

- Bulk

Minimum Order Information Required

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

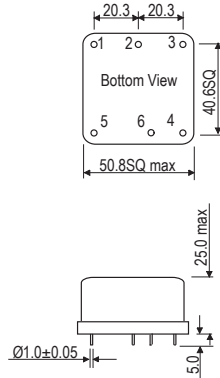
Outline (mm) - Package 40



- Pin Function
- Frequency Control Input
 - Output reference voltage
 - Input supply (+)
 - Output signal
 - Mechanical GND and (-) supply

All tolerances \pm 0.2mm

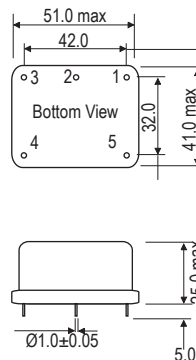
Outline (mm) - Package 50



- Pin Function
- Frequency Control Input
 - Output ref. voltage
 - Output signal
 - Mechanical GND and (-) supply
 - Input supply (+)

All tolerances \pm 0.2mm

Outline (mm) - Package 51



- Pin Function
- Mechanical GND and supply
 - Frequency Control Input
 - Ref. voltage output
 - Supply Input
 - Signal output

All tolerances \pm 0.2mm

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			
-20 to 75°C	≤3x10 ⁻⁹	≤±7x10 ⁻¹¹	≤±2x10 ⁻⁹	≤±1.2x10 ⁻⁸	≥7x10 ⁻⁷	≤±2x10 ⁻¹⁰	CFPO-4 A1
	≤5x10 ⁻⁹	≤±1x10 ⁻¹⁰	≤±3x10 ⁻⁹	≤±1.5x10 ⁻⁸			CFPO-4 A2
	≤1x10 ⁻⁸	≤±2x10 ⁻¹⁰	≤±6x10 ⁻⁹	≤±3x10 ⁻⁸		≤±5x10 ⁻¹⁰	CFPO-4 A3
	≤1x10 ⁻⁸	≤±3x10 ⁻¹⁰	≤±1x10 ⁻⁸	≤±5x10 ⁻⁸			CFPO-4 A4

Ordering Example CFPO-4-A1 50 S 12 A 8.192MHz
 Model _____
 Package outline (40) (50) (51) _____
 Output Signal (C) (S**) _____
 Supply Voltage (9) (12) (15) _____
 Oven Alarm Option (A) _____
 Frequency (MHz) _____

*Voltage Reference: +8.0V ±0.2V

**Sine available in package 40 from 8.19 to 16.384MHz

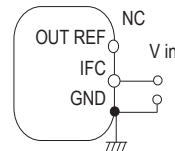
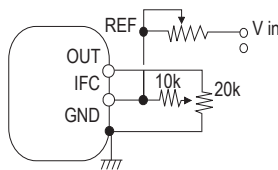
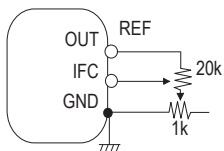
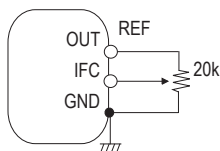
External Frequency Adjustment

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