

# CFPV-41, -42, -43, -44 SMD VCXOs

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## Description

- A range of surface mount voltage controlled oscillators (VCXOs) in a hermetically sealed ceramic package

## Package Outline

- 7 x 5mm

## Frequency Range

- 1 to 80MHz

## Output Compatibility & Load

- Tri-state HCMOS
- Load 15pF max

## Standard Frequency Stabilities

- $\pm 25\text{ppm}$ ,  $\pm 50\text{ppm}$ ,  $\pm 100\text{ppm}$  (inclusive of supply voltage and output load variations over the operating temperature range)

## Operating Temperature Ranges

- 10 to 70°C (CFPV-41, -42, -43, -44)
- 40 to 85°C (CFPV-411, -421, -431, 441)

## Storage Temperature Range

- 40 to 85°C

## Tri-State Operation

- Logic '1' (>70%Vs) to pad 2 enables oscillator output
- Logic '0' (<30%Vs) to pad 2 disables oscillator output; when disabled the oscillator output goes to the high impedance state
- No connection pad 2 enables oscillator output

## Supply Voltage

- 5.0V CFPV-41, -43
- 3.3V CFPV-42, -44

## Voltage Control (pad 1)

- $2.5\text{V} \pm 2.0\text{V}$  (CFPV-41, -43)
- $1.65\text{V} \pm 1.5\text{V}$  (CFPV-42, -44)

## Pullability

- $\pm 50\text{ppm}$  min (CFPV-41, -42)
- $\pm 100\text{ppm}$  min (CFPV-43, -44)

## Linearity

- Positive  $< \pm 10\%$

## Modulation Bandwidth

- >20kHz

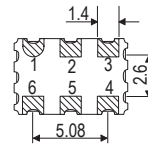
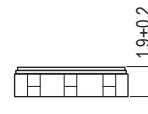
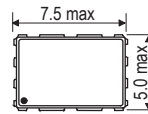
## Phase Jitter

- <20MHz 1ps rms (12kHz - 1MHz)

## Start-Up Time

- 10ms max

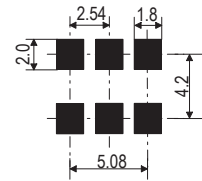
## Outline (mm)



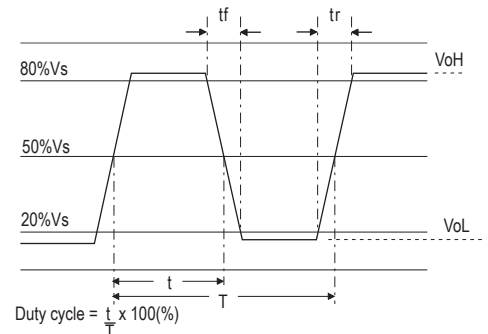
## Pad Connections

- Voltage Control
- Enable/Disable
- GND
- Output
- N/C
- +Vs

## Solder pad layout



## Output Waveform



## Environmental

- Shock: MIL-STD-202F, Method 213B (1000G, 0.5ms, 1/2 sine)
- Vibration: sinewave, frequency range 10-55Hz, amplitude 1.52mm, 2 hrs in X, Y, Z axes (total 6 hrs)

## Marking Includes

- Model Number + Operating Temperature Code (if applicable) + Frequency Stability Code + Frequency

## Packaging

- Bulk or Tape & Reel

## Minimum Order Information Required

- Frequency + Operating Temperature Code (if applicable) + Model Number + Frequency Stability

VCXOs

### Electrical Specification - maximum limiting values

Frequency Range	Frequency Stability	Supply Voltage	Supply Current	Pullability	Rise Time (tr) (20-80%)	Fall Time (tf) (80-20%)	Duty Cycle	Model Number
1.0 to 18.0MHz	±25ppm, ±50ppm, ±100ppm	5.0 ±0.25V	20mA	±50ppm min ±100ppm min	5ns	5ns	40/60%	CFPV-41, -411
		3.3V ±0.3V	15mA	±50ppm min ±100ppm min				CFPV-43, -431
> 18.0 to 30.0MHz		5.0 ±0.25V	30mA	±50ppm min ±100ppm min				CFPV-42, -421
		3.3V ±0.3V	15mA	±50ppm min ±100ppm min				CFPV-44, -441
> 30.0 to 36.0MHz		5.0 ±0.25V	30mA	±50ppm min ±100ppm min				CFPV-41, -411
		3.3V ±0.3V	25mA	±50ppm min ±100ppm min				CFPV-43, -431
> 36.0 to 52.0MHz		5.0 ±0.25V	40mA	±50ppm min ±100ppm min				CFPV-42, -421
		3.3V ±0.3V	25mA	±50ppm min ±100ppm min				CFPV-44, -441
> 52.0 to 80.0MHz	±50ppm, ±100ppm	5.0 ±0.25V	50mA	±50ppm min ±100ppm min				CFPV-41, -411
		3.3V ±0.3V	35mA	±50ppm min ±100ppm min				CFPV-43, -431

Ordering Example

Frequency \_\_\_\_\_ 13.0MHz CFPV-43 | B

Model No. \_\_\_\_\_

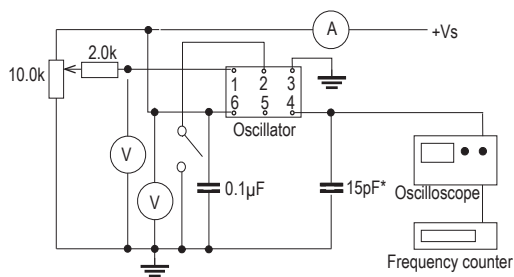
Operating Temperature Code: I = -40 to 85°C; not applicable for -10 to 70°C \_\_\_\_\_

Frequency Stability: A = ±25ppm; B = ±50ppm; C = ±100ppm \_\_\_\_\_

Some combinations of specification may not be available, please check with our sales office.

VCXOs

### Test Circuit



\*Inclusive of jigging and equipment capacitance

### Tape and Reel (mm)

