

## CFPV-45, -46 SMD VCXOs

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### Description

- Standard 7 x 5mm Voltage Controlled Crystal Oscillators
- Pulling of  $\pm 100$ ppm min APR
- Available in 5.0V or 3.3V supply
- Ceramic package with a seam sealed metal lid, hermetically sealed
- Stock parts listed at the beginning of this chapter

### Frequency Ranges

- 1.5 to 80MHz (CFPV-45)
- 1.5 to 51.84MHz (CFPV-46)

### Output Compatibility & Load

- Tri-state HCMOS
- Drive Capability: 15pF max

### Supply Voltages

- 3.3V CFPV-45
- 5.0V CFPV-46

### Frequency Stabilities

- $\pm 100$ ppm (inclusive of frequency tolerance, ageing, shock and vibration)

### Operating Temperature Range

- 0 to 70°C

### Operable Temperature Range

- 40 to 85°C

### Tri-state Operation

- Logic '1' (>2.5V) to pad 2 enables oscillator output
- Logic '0' (<0.5V) to pad 2 disables oscillator output; when disabled the oscillator output goes to the high impedance state
- No connection pad 2 enables oscillator output

### Voltage Control (pad 1)

- 1.65V $\pm$ 1.65V (CFPV-45)
- 2.5V $\pm$ 2.0V (CFPV-46)

### Pullability

- $\pm 100$ ppm min APR

### Linearity

- Positive <  $\pm 10\%$

### Input Impedance (voltage control, pad 1)

- 50k $\Omega$  min

### Modulation Bandwidth

- >10kHz (@-3dB, Vc=2.5V)

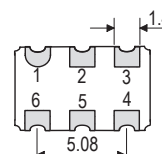
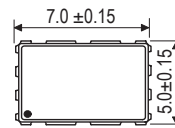
### Phase Jitter

- 20ps max @ 1sigma

### Storage Temperature Range

- 55 to 125°C

### Outline (mm)

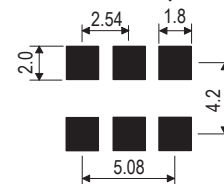


Underside View

### Pad Connections

- Voltage Control
- Tri-State Operation
- Ground
- Output
- N/C
- +Vs

### Solder Pad Layout



### Environmental

- Shock: MIL-STD-202, Method 213, Cond. E
- Vibration: MIL-STD-883, Method 2007, Cond. A

### Packaging

- Loose in bulk pack, 100pcs per bag
- Tape and reel in accordance with EIA-481-D, 1kpcs per reel (please see pages 372 & 373)

### Ordering Information (\*minimum required)

- Frequency\*
- Model\*
- Output
- Frequency Stability (over operating temperature range)
- Operating Temperature Range
- Supply Voltage
- Pullability

### Example

- 20.0MHz CFPV-45  
HCMOS  $\pm 100$ ppm 0 to 70C 3.3V  $\pm 100$ ppm min



**Electrical Specification - maximum limiting values**

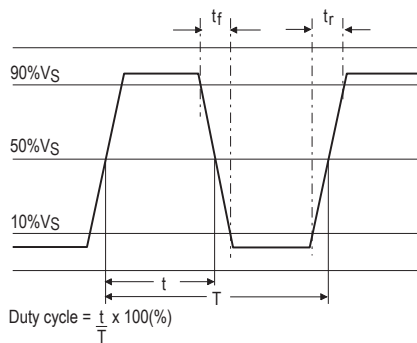
Frequency Range	Supply Voltage	Supply Current	Pullability APR	Rise Time (tr) (10-90%)	Fall Time (tf) (90-10%)	Duty Cycle	Model Number
1.5 to 80.0MHz	3.3V±0.3V	50mA	±100ppm min	10ns	10ns	40/60%	CFPV-45
1.5 to 51.84MHz	5.0V±0.25V	60mA					CFPV-46

APR - Absolute Pulling Range  
 The APR is the minimum pulling from nominal after an allowance is made for frequency shift due to temperature, ageing, supply voltage and load variation plus environmental effects.

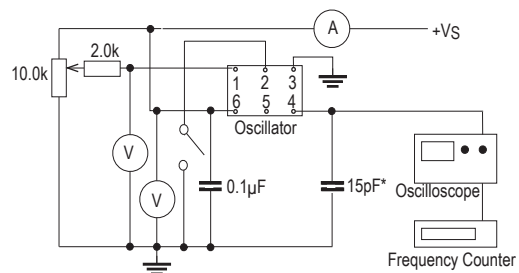
For operation over -40 to 85°C, please discuss your requirements with our sales offices

Note: For other frequency / specification combinations, please contact our sales offices

**Output Waveform**



**Test Circuit**



\*Inclusive of jigging and equipment capacitance

