

# CFPV-1000, -1100

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## Delivery Options

- Please contact our sales office for current leadtimes

## Output Compatibility

- Tri-state HCMOS/TTL
- Drive Capability: 50pF/10 TTL <40.0MHz
- Drive Capability: 15pF/10 TTL <40.0MHz

## Description

- CFPV-1000, -1100 are surface mount voltage controlled crystal oscillators providing a high dedgree of frequency stability over a wide temmpereature range. They are particularly suited to applications where space is at a premium

## Package Outline

- 14.2 x 9.35 x 4.96mm SMD (surface mount device)

## Standard Frequencies

- 4.0960MHz, 12.960MHz, 13.0MHz, 16.3840MHz, 19.44MHz, 21.85054MHz, 20.57560MHz, 26.21440MHz, 27.0MHz, 33.554431MHz, 33.7920MHz, 35.3280MHz, 38.78530MHz, 38.880MHz, 40.960MHz, 44.7360MHz, 50.0MHz, 51.84MHz, 77.76MHz, 155.52MHz

## Standard Frequency Stabilities

- $\pm 25$ ppm,  $\pm 50$ ppm, inclusive of supply voltage & output load variations over the operating temperature range

## Frequency Tolerance

- $\leq \pm 20$ ppm at 25°C

## Storage Temperature Range

- -40 to 85°C

## Frequency Control (ref: @ 25°C, nominal control voltage)

- $\pm 85$ ppm min /  $\pm 200$ ppm max.

## Linearity (to MIL-0-55310)

- $\leq \pm 10\%$

## Modulation Bandwidth

- >10.0kHz

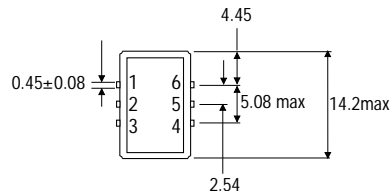
## Tri-state Control

- Pin 2:  $\leq 0.8V$  tri-state      Pin 2: > Vs/2 oscillation
- Pin 2: Open circuit oscillation

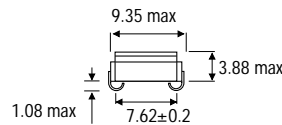
## Ageing

- <  $\pm 5$ ppm first year
- <  $\pm 15$ ppm 10 years

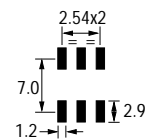
## Outline in mm



Pin	Connection
1	Voltage Control
2	Tri -state Control
3	Ground
4	RF Output
5	N/C
6	+Vs

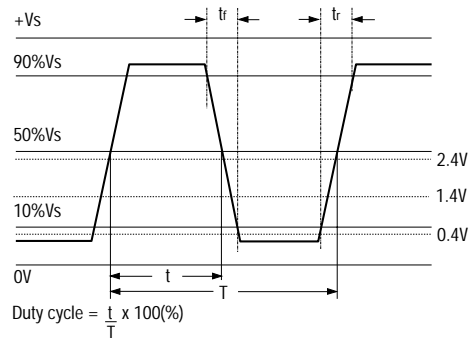


## Solder pad layout

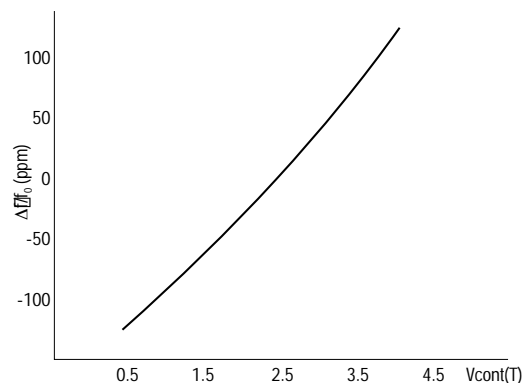


Note: Pin 1 identified by tab on corner

## Output Waveform - HCMOS/TTL



## Typical Voltage Control Curve @ 25°C



**Marking**

- Model number
- Operating Temperature Code/Frequency Stability Code
- Frequency
- Date Code (Year/Week)

**Minimum Order Information Required**

- Frequency + Model Number + Frequency Stability

**Jitter**

- < 200 psec pk.pk

**Phase Noise (typ) at Nominal Frequency = 77.76MHz**

Offset from Carrier	Phase Noise
10 Hz	-70dBc/Hz
100Hz	-90dBc/Hz
1 kHz	-110dBc/Hz
10kHz	-100dBc/Hz
100kHz	-100dBc/Hz
1MHz	-115dBc/Hz

**Electrical Specification - maximum limiting values when measured in HCMOS test circuit**

Frequency Range	Frequency Stability	Supply Voltage	Supply Current	Voltage Control Pin 1	Rise Time(t <sub>r</sub> )	Fall Time(t <sub>f</sub> )	Duty Cycle	Model Number
0.5 to < 24.0MHz	±25ppm ±50ppm	5V±0.25V	15mA	2.5V±2.0V	6ns	6ns	40/60%	CFPV-1000
24.0 to < 30.0MHz	±25ppm ±50ppm	5V±0.25V	25mA	2.5V±2.0V	6ns	6ns	40/60%	CFPV-1000
30.0 to 156.0MHz	±25ppm ±50ppm	5V±0.25V	65mA	2.5V±2.0V	6ns	6ns	40/60%	CFPV-1000
0.5 to <24.0MHz	±25ppm ±50ppm	3.3V±0.15V	15mA	1.65V±1.35V	6ns	6ns	40/60%	CFPV-1100
24.0 to <30.0MHz	±25ppm ±50ppm	3.3V±0.15V	25mA	1.65V±1.35V	6ns	6ns	40/60%	CFPV-1100
30.0 to 100.0MHz	±25ppm ±50ppm	3.3V±0.15V	50mA	1.65V±1.35V	6ns	6ns	40/60%	CFPV-1100

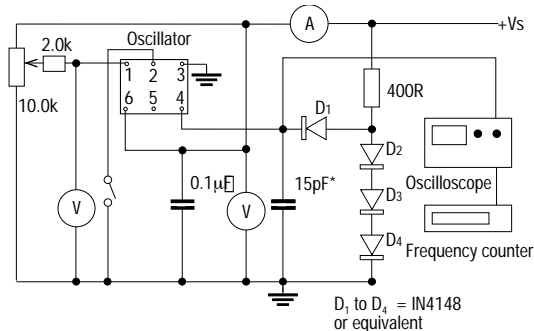
SURFACE MOUNT VCXOs

**Operating Temperature Ranges Vs Frequency Stability**

Operating Temperature Ranges	Operating temperature Range Vs Frequency Stabilities	
	±25ppm	±50ppm
0 to 70°C	Code CA	Code CB
-20 to 70°C	Code SA	Code SB
-40 to 85°C	—	Code XB

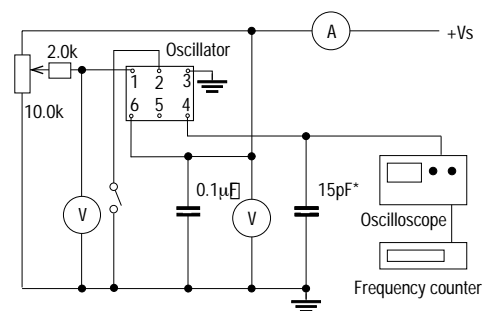
**Ordering Example**  
 Frequency: 24.0MHz    Model number: CFPV-1000    Operating Temperature Code: S    Frequency Stability: A

**Test Circuit - TTL**



\*Inclusive of jigging & equipment capacitance

**Test Circuit - HCMOS**



\*Inclusive of jigging & equipment capacitance