## ISSUE 1; 14 OCTOBER 1999

## Delivery Options

- Common frequencies are available from stock. Please see p207 for details


## Output Compatibility

- Tri-state HCMOS


## Description

- CFPV-41, $-42,-43,-44$ are surface mount voltage controlled crystal oscillators providing a high degree of frequency stability over a wide temperature range. It is particularly suited to applications where space is at a premium


## Package Outline

- $7.5 \times 5.0 \times 1.9 \mathrm{~mm}$ SMD (surface mount device)


## Standard Frequencies

- $2.048 \mathrm{MHz}, 4.096 \mathrm{MHz}, 8.192 \mathrm{MHz}, 10.0 \mathrm{MHz}$, $12.288 \mathrm{MHz}, 16.384 \mathrm{MHz}, 19.44 \mathrm{MHz}, 20.48 \mathrm{MHz}$, $24.576 \mathrm{MHz}, 26.0 \mathrm{MHz}, 28.6363 \mathrm{MHz}, 32.768 \mathrm{MHz}$, $34.368 \mathrm{MHz}, 34.816 \mathrm{MHz}, 38.880 \mathrm{MHz}, 40.960 \mathrm{MHz}$, $44.7360 \mathrm{MHz}, 49.152 \mathrm{MHz}, 50.0 \mathrm{MHz}, 51.84 \mathrm{MHz}$


## Standard Frequency Stabilities

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


## Operating Temperature Range

- -10 to $70^{\circ} \mathrm{C}$


## Storage Temperature Range

- -40 to $85^{\circ} \mathrm{C}$


## Voltage Control Pin 1

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


## Linearity

- < $\pm 10 \%$


## Modulation Bandwidth

- $>20 \mathrm{kHz}$


## Start up Time

- 10 mS max.


## Marking

- Model number
- Frequency Stability Code
- Frequency


## Minimum Order Information Required

- Frequency + Model Number + Frequency Stability

Outline in mm (inches) - (scale 2:1)


## Output Waveform - HCMOS



## Test Circuit



[^0]Electrical Specification - maximum limiting values when measured in test circuit

| Frequency Range | Frequency Stability | Supply Voltage | Supply Current | Output Frequency Change | Rise Time ( $\mathrm{t}_{\mathrm{r}}$ ) | Fall Time ( $\mathrm{t}_{\mathrm{f}}$ ) | Duty Cycle | Model Number |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| 1.0 to 18.0 MHz | $\begin{gathered} \pm 25 \mathrm{ppm}, \pm 50 \mathrm{ppm}, \\ \pm 100 \mathrm{ppm} \end{gathered}$ | $5 \mathrm{~V} \pm 0.25 \mathrm{~V}$ | 20 mA | $\pm 50 \mathrm{ppm}$ min | 5 ns | 5 ns | 40/60\% | CFPV-41 |
|  |  |  |  | $\pm 100 \mathrm{ppm}$ min |  |  |  | CFPV-43 |
|  |  | $3.3 \mathrm{~V} \pm 0.16 \mathrm{~V}$ | 15 mA | $\pm 50 \mathrm{ppm}$ min |  |  |  | CFPV-42 |
|  |  |  |  | $\pm 100 \mathrm{ppm}$ min |  |  |  | CFPV-44 |
| >18.0 to 30.0 MHz | $\begin{gathered} \pm 25 \mathrm{ppm}, \pm 50 \mathrm{ppm}, \\ \pm 100 \mathrm{ppm} \end{gathered}$ | $5 \mathrm{~V} \pm 0.25 \mathrm{~V}$ | 30 mA | $\pm 50 \mathrm{ppm}$ min | 5ns | 5 ns | 40/60\% | CFPV-41 |
|  |  |  |  | $\pm 100 \mathrm{ppm}$ min |  |  |  | CFPV-43 |
|  |  | $3.3 \mathrm{~V} \pm 0.16 \mathrm{~V}$ | 15 mA | $\pm 50 \mathrm{ppm}$ min |  |  |  | CFPV-42 |
|  |  |  |  | $\pm 100 \mathrm{ppm}$ min |  |  |  | CFPV-44 |
| >30.0 to 36.0 MHz | $\begin{gathered} \pm 25 \mathrm{ppm}, \pm 50 \mathrm{ppm}, \\ \pm 100 \mathrm{ppm} \end{gathered}$ | $5 \mathrm{~V} \pm 0.25 \mathrm{~V}$ | 30 mA | $\pm 50 \mathrm{ppm}$ min | 5 ns | 5ns | 40/60\% | CFPV-41 |
|  |  |  |  | $\pm 100 \mathrm{ppm}$ min |  |  |  | CFPV-43 |
|  |  | $3.3 \mathrm{~V} \pm 0.16 \mathrm{~V}$ | 25 mA | $\pm 50 \mathrm{ppm}$ min |  |  |  | CFPV-42 |
|  |  |  |  | $\pm 100 \mathrm{ppm}$ min |  |  |  | CFPV-44 |
| >36.0 to 45.0MHz | $\begin{gathered} \pm 25 \mathrm{ppm}, \pm 50 \mathrm{ppm}, \\ \pm 100 \mathrm{ppm} \end{gathered}$ | $5 \mathrm{~V} \pm 0.25 \mathrm{~V}$ | 40 mA | $\pm 50 \mathrm{ppm}$ min | 5 ns | 5 ns | 40/60\% | CFPV-41 |
|  |  |  |  | $\pm 100 \mathrm{ppm}$ min |  |  |  | CFPV-43 |
|  |  | $3.3 \mathrm{~V} \pm 0.16 \mathrm{~V}$ | 25 mA | $\pm 50 \mathrm{ppm}$ min |  |  |  | CFPV-42 |
|  |  |  |  | $\pm 100 \mathrm{ppm}$ min |  |  |  | CFPV-44 |
| >45.0 to 52.0 MHz | $\begin{gathered} \pm 25 \mathrm{ppm}, \pm 50 \mathrm{ppm}, \\ \pm 100 \mathrm{ppm} \end{gathered}$ | $5 \mathrm{~V} \pm 0.25 \mathrm{~V}$ | 40 mA | $\pm 50 \mathrm{ppm}$ min | 5 ns | 5 ns | 40/60\% | CFPV-41 |
|  |  |  |  | $\pm 100 \mathrm{ppm}$ min |  |  |  | CFPV-43 |
| Ordering ExampleFrequencyModel NoFrequency Stability: $A= \pm 25 \mathrm{ppm} ; B= \pm 50 \mathrm{ppm} ; \mathrm{C}= \pm 100 \mathrm{ppm}$ |  |  |  |  |  |  |  |  |

Outline in mm (inches) - Tape


Outline in mm (inches) - Reel (scale 1:8)



[^0]:    *Inclusive of jigging \& equipment capacitance

