

CFPV-41, -42, -43, -44

ISSUE 3; 18 OCTOBER 2004

Delivery Options

- Please contact our sales office for current leadtimes

Description

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

Package Outline

- 7.5 x 5.0 x 1.9mm SMD (surface mount device)

Output Compatibility

- 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 & output load variations over the operating temperature range)

Operating Temperature Ranges

- -10 to 70°C
- -40 to +85°C

Storage Temperature Range

- -55 to 125°C

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)

Linearity and Modulation Bandwidth

- $\leq \pm 10\%$

Modulation Bandwidth

- >20kHz

Tri-State Operation

- Logic '0' to pad 2 disables oscillator output; when disabled oscillator output goes to the high impedance state
- No connection of Logic '1' to pad 2 enables oscillator

Solder Conditions

- For typical soldering conditions, please see the relevant pages in Applications Notes

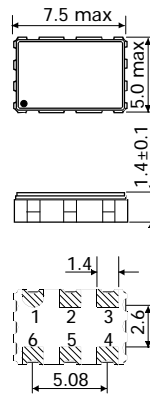
Marking

- Model number, Operating Temperature Code (if applicable), Frequency Stability Code, Frequency

Minimum Order Information Required

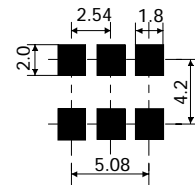
- Frequency + Operating Temperature Code (if applicable) + Model Number + Frequency Stability

Outline in mm

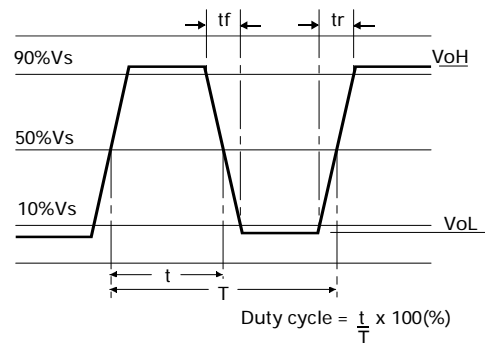


- Pad Connections
1. Voltage Control
 2. Enable/Disable
 3. GND
 4. Output
 5. N/C
 6. +Vs

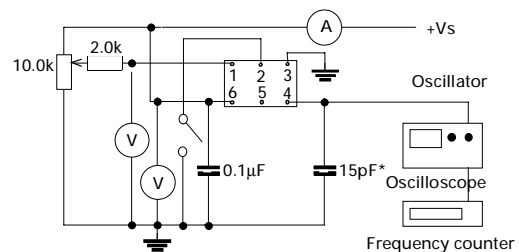
Solder pad layout



Output Waveform - HCMOS



Test Circuit



*Inclusive of jigging & equipment capacitance

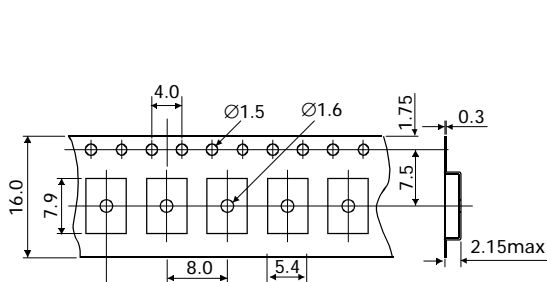
Electrical Specifications - maximum limiting values when measured in HCMOS test circuit.

| Frequency Range | Frequency Stability | Supply Voltage | Supply Current | Output Frequency Change | Rise Time(t_r) | Fall Time(t_f) | Duty Cycle | Model Number |
|------------------|--|-------------------------|---|---|--------------------|--------------------|------------|---------------|
| 1.0 to 18.0MHz | $\pm 25\text{ppm}$, 50ppm $\pm 100\text{ppm}$ | 5V $\pm 0.25\text{V}$ | 20mA | $\pm 50\text{ppm}$ min $\pm 100\text{ppm}$ min | 5ns | 5ns | 40/60% | CFPV-41, -41I |
| | | 3.3V $\pm 0.16\text{V}$ | 15mA | $\pm 50\text{ppm}$ min $\pm 100\text{ppm}$ min | | | | CFPV-43, -43I |
| | 5V $\pm 0.25\text{V}$ | 30mA | $\pm 50\text{ppm}$ min $\pm 100\text{ppm}$ min | CFPV-42, -42I | | | | |
| | | | | CFPV-44, -44I | | | | |
| >18.0 to 30.0MHz | $\pm 25\text{ppm}$, $\pm 50\text{ppm}$ $\pm 100\text{ppm}$ | 5V $\pm 0.25\text{V}$ | 30mA | $\pm 50\text{ppm}$ min $\pm 100\text{ppm}$ min | 5ns | 5ns | 40/60% | CFPV-41, -41I |
| | | 3.3V $\pm 0.16\text{V}$ | 15mA | $\pm 50\text{ppm}$ min $\pm 100\text{ppm}$ min | | | | CFPV-43, -43I |
| | 5V $\pm 0.25\text{V}$ | 30mA | $\pm 50\text{ppm}$ min $\pm 100\text{ppm}$ min | CFPV-42, -42I | | | | |
| | | | | CFPV-44, -44I | | | | |
| >30.0 to 36.0MHz | $\pm 25\text{ppm}$, $\pm 50\text{ppm}$ $\pm 100\text{ppm}$ | 5V $\pm 0.25\text{V}$ | 30mA | $\pm 50\text{ppm}$ min $\pm 100\text{ppm}$ min | 5ns | 5ns | 40/60% | CFPV-41, -41I |
| | | 3.3V $\pm 0.16\text{V}$ | 25mA | $\pm 50\text{ppm}$ min $\pm 100\text{ppm}$ min | | | | CFPV-43, -43I |
| | 5V $\pm 0.25\text{V}$ | 30mA | $\pm 50\text{ppm}$ min $\pm 100\text{ppm}$ min | CFPV-42, -42I | | | | |
| | | | | CFPV-44, -44I | | | | |
| >36.0 to 45.0MHz | $\pm 25\text{ppm}$, $\pm 50\text{ppm}$ $\pm 100\text{ppm}$ | 5V $\pm 0.25\text{V}$ | 40mA | $\pm 50\text{ppm}$ min $\pm 100\text{ppm}$ min | 5ns | 5ns | 40/60% | CFPV-41, -41I |
| | | 3.3V $\pm 0.16\text{V}$ | 25mA | $\pm 50\text{ppm}$ min $\pm 100\text{ppm}$ min | | | | CFPV-43, -43I |
| | 5V $\pm 0.25\text{V}$ | 40mA | $\pm 50\text{ppm}$ min $\pm 100\text{ppm}$ min | CFPV-42, -42I | | | | |
| | | | | CFPV-44, -44I | | | | |
| >45.0 to 52.0MHz | $\pm 25\text{ppm}$, $\pm 50\text{ppm}$ $\pm 100\text{ppm}$ | 5V $\pm 0.25\text{V}$ | 40mA | $\pm 50\text{ppm}$ min $\pm 100\text{ppm}$ min | 5ns | 5ns | 40/60% | CFPV-41, -41I |
| | | | | | | | | CFPV-43, -43I |

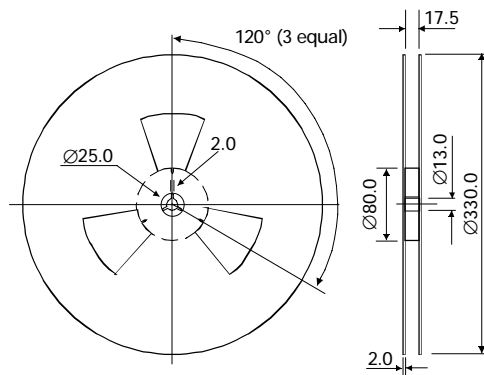
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|--|---------|---------|-------|-------|
| Ordering Example | 13.0MHz | CFPV-43 | I | B |
| Frequency | _____ | _____ | _____ | _____ |
| Model number | _____ | _____ | _____ | _____ |
| Operating Temperature Code: I = -40 to 85°C; Not applicable for -10 to 70°C | _____ | _____ | _____ | _____ |
| Frequency Stability: A = $\pm 25\text{ppm}$, B = $\pm 50\text{ppm}$, C = $\pm 100\text{ppm}$ | _____ | _____ | _____ | _____ |

Note. For other frequencies / specifications please contact our sales office.
Some combinations of specification may not be available; please check with our sales office.

Outline in mm - Tape



Outline in mm - Reel



SURFACE MOUNT
VCOs