

# CFPS-32 SMD CLOCK OSCILLATORS

ISSUE 5; 30 JULY 2009 - RoHS 2002/95/EC

## Description

- 2.5V surface mount oscillator in a ceramic package, with a hermetically sealed metal lid

## Package Outline

- 7 x 5mm

## Frequency Range

- 1.8 to 160MHz

## Output Compatibility & Load

- Tri-state CMOS
- Drive Capability 15pF max

## 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 (CFPS-32)
- 40 to 85°C (CFPS-32I)

## Storage Temperature Range

- 55 to 125°C

## Tri-state Operation

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

## Standby Current

- 10 $\mu$ A max

## Start-Up Time

- 10ms max

## Environmental

- Shock: MIL-STD-202F, Method 213B (1000G, 0.5ms, 1/2 sine wave)
- Vibration: MIL-STD-202F, Method 204D, Test Condition D20G, frequency range 10-2000Hz, 4 hrs for X, Y & Z axes, (total 12 hrs)

## Marking Includes

- Model Number + Frequency

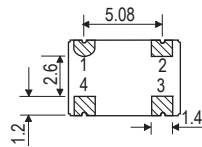
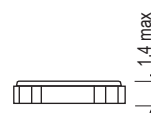
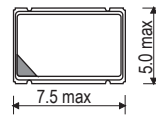
## Packaging

- Bulk or Tape and Reel
- Tape & Reel packaging in accordance with EIA-481-D

## Minimum Order Information Required

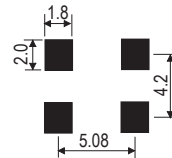
- Frequency + Model Number + Operating Temperature Code (if applicable) + Frequency Stability

## Outline (mm)

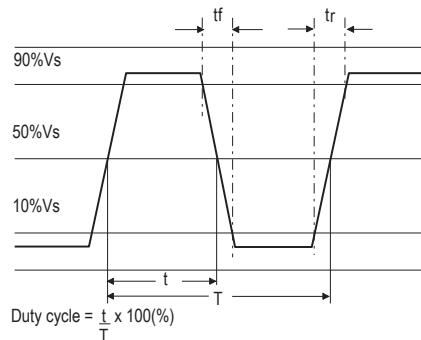


- Pad Connections
1. Enable/Disable
  2. GND
  3. Output
  4. +Vs

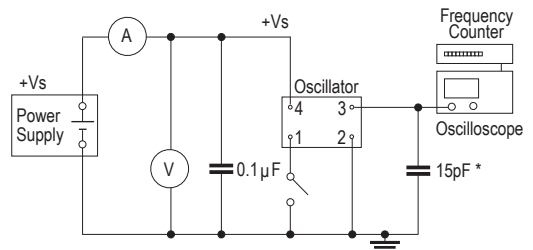
## Solder pads layout



## Output Waveform



## Test Circuit



\* Inclusive of jigging and equipment capacitance

### Electrical Specifications - maximum limiting values

| Frequency Range    | Frequency Stability        | Supply Voltage | Supply Current | Rise Time (tr) | Fall Time (tf) | Duty Cycle | Model Number        |
|--------------------|----------------------------|----------------|----------------|----------------|----------------|------------|---------------------|
| 1.8 to 32.0MHz     | ±25ppm, ±50ppm,<br>±100ppm | 2.5V ±5%       | 10mA           | 5ns            | 5ns            | 45/55%     | CFPS-32<br>CFPS-32I |
| >32.0 to 50.0MHz   |                            |                | 18mA           |                |                | 40/60%     |                     |
| >50.0 to 80.0MHz   |                            |                | 28mA           | 4ns            | 4ns            |            |                     |
| >80.0 to 125.0MHz  |                            |                |                | 38mA           | 3ns            | 3ns        |                     |
| >125.0 to 160.0MHz |                            |                |                |                |                |            |                     |

Ordering Example 24.0MHz CFPS-32 | C  
 Frequency \_\_\_\_\_  
 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 \_\_\_\_\_

Please note that the rise and fall times listed are the maximum values we specify to cover various frequency breaks.  
 In practice the actual values are generally lower depending upon the spot frequency chosen. For typical values please contact our sales office.

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