

# CFPS-107, -108, -109 SMD CLOCK OSCILLATORS

ISSUE 2; 1 NOVEMBER 2008 - RoHS 2002/95/EC

## Description

- A range of tight stability surface mount oscillators in a ceramic package with a hermetically sealed metal lid providing the standard watch crystal frequency of 32.768kHz

## Package Outline

- 2.5 x 2mm

## Frequency Range

- 32.768kHz

## Output Compatibility & Load

- Tri-state CMOS
- Drive Capability 15pF max

## Frequency Stabilities

- $\pm 20\text{ppm}$ ,  $\pm 25\text{ppm}$ ,  $\pm 50\text{ppm}$ ,  $\pm 100\text{ppm}$   
(Inclusive of tolerance and operating temperature range)

## Operating Temperature Ranges

- 0 to 70°C (CFPS-107, 108, 109)
- 40 to 85°C (CFPS-107I, 108I, 109I)

## Storage Temperature Range

- 55 to 125°C

## Tri-state Operation

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

## Supply Voltage

- 1.8V CFPS-107
- 2.5V CFPS-108
- 3.3V CFPS-109

## Ageing

- $\pm 3\text{ppm}$  max per year

## Environmental

- Shock: MIL-STD-883F : 2002.4, 1500G, 0.5ms, 3 times in each X, Y & Z axes
- Vibration: MIL-STD-883F : 2007.3, frequency range 20-2000Hz, 1.52mm amplitude, peak acceleration 20G

## Marking Includes

- Model Number

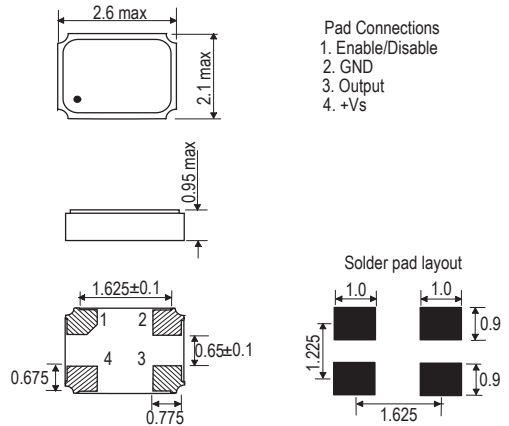
## Packaging

- Bulk or Tape and Reel

## Minimum Order Information Required

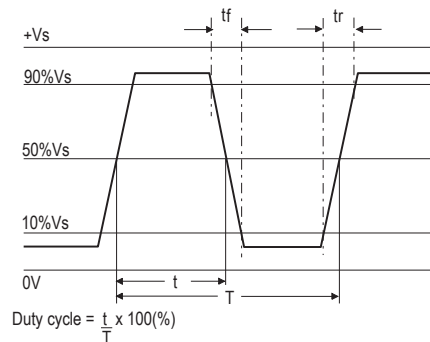
- Frequency + Model Number + Operating Temperature Code (if applicable) + Frequency Stability

## Outline (mm)

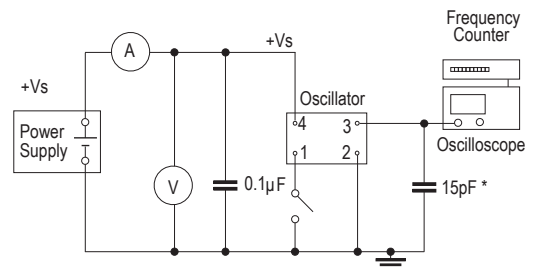


- Pad Connections
- Enable/Disable
  - GND
  - Output
  - +Vs

## Output Waveform



## Test Circuit



\* Inclusive of jigging and equipment capacitance

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### Electrical Specifications - maximum limiting values

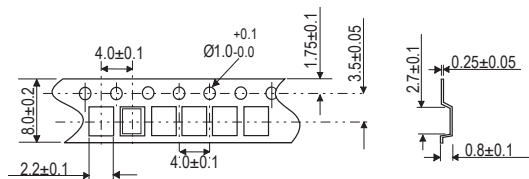
Frequency Range	Frequency Stability	Supply Voltage	Supply Current	Rise Time (tr)	Fall Time (tf)	Duty Cycle	Model Number
32.768kHz	±20ppm, ±25ppm, ±50ppm, ±100ppm	1.8V±5%	1.5mA	50ns	50ns	40/60%	CFPS-107
		2.5V±5%	2.5mA				CFPS-107I
		3.3V±5%	3.5mA				CFPS-108 CFPS-108I CFPS-109 CFPS-109I

Ordering Example

Frequency \_\_\_\_\_ 32.768kHz  
 Model No. \_\_\_\_\_ CFPS-109  
 Operating Temperature Code: I = -40 to 85°C; not applicable for 0 to 70°C  
 Frequency Stability: G = ±20ppm, A= ±25ppm, B = ±50ppm, C = ±100ppm

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### Tape (mm)



### Reel (mm)

