

# CFPS-107, 108, 109

ISSUE 1; 29 JULY 2008



## Delivery Options

- Please contact our sales office for current leadtimes

## Description

- The CFPS-107, 108, 109 are ultra miniature surface mount oscillators at the watch crystal frequency of 32.768kHz and with a CMOS output.

## Output Compatibility

- Tri-state CMOS
- Drive Capability 15pF max

## Package Outline

- 2.5 x 2.0mm SMD package with ceramic base & seam sealed metal lid.

## Frequency

- 32.768kHz

## Frequency Stabilities

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

## Operating Temperature Ranges

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

## Ageing

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

## 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

## 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

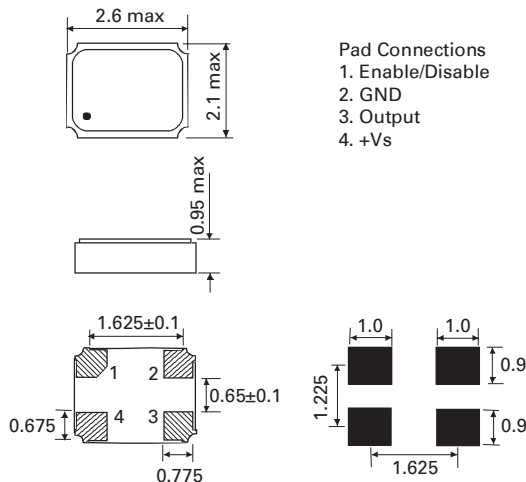
## Marking includes

- Model Number

## Minimum Order Information Required

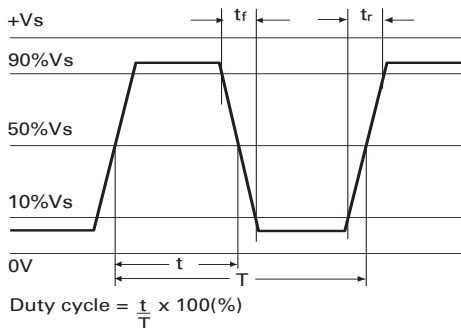
- Frequency + Model Number + Operating Temperature Code (if applicable) + Frequency Stability

Outline in mm

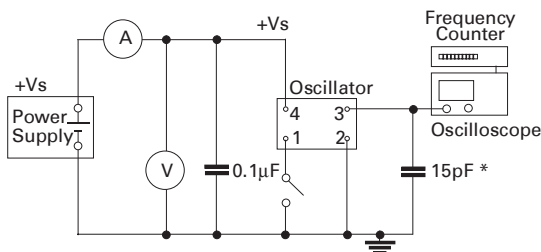


Pad Connections  
 1. Enable/Disable  
 2. GND  
 3. Output  
 4. +Vs

## Output Waveform



## Test Circuit - CMOS



\* Inclusive of jigging & equipment capacitance

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

Frequency	Frequency Stability	Supply Voltage	Supply Current	Rise Time (tr)	Fall Time (tf)	Duty Cycle	Model Number
32.768kHz	$\pm 20\text{ppm}$ , $\pm 25\text{ppm}$ , $\pm 50\text{ppm}$ , $\pm 100\text{ppm}$	1.8V $\pm 5\%$	1.5mA	50ns	50ns	40/60%	CFPS-107 CFPS-107I
		2.5V $\pm 5\%$	2.5mA				CFPS-108 CFPS-108I
		3.3V $\pm 10\%$	3.5mA				CFPS-109 CFPS-109I

**Ordering Example** **32.768kHz** **CFPS-109** **I** **C**

Frequency \_\_\_\_\_

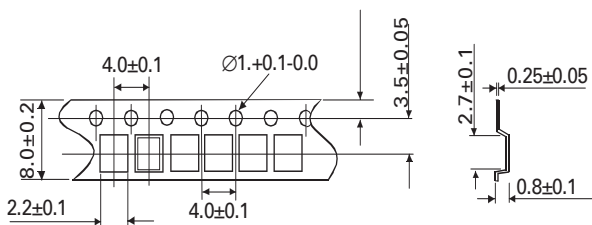
Model No \_\_\_\_\_

Operating Temperature Code: I = -40 to 85°C, Not applicable for 0 to 70°C \_\_\_\_\_

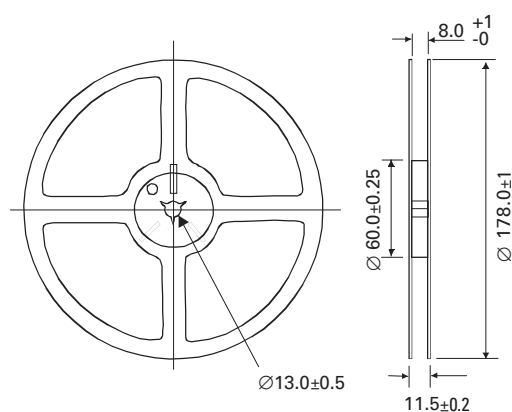
Frequency Stability: G =  $\pm 20\text{ppm}$ , A =  $\pm 25\text{ppm}$ , B =  $\pm 50\text{ppm}$ , C =  $\pm 100\text{ppm}$  \_\_\_\_\_

SURFACE MOUNT  
SPX0s

Outline in mm - Tape



Outline in mm - Reel



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