

CFPS-102, -103, -104 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

- 3.2 x 2.5mm

Frequency Range

- 32.768kHz

Output Compatibility & Load

- Tri-state CMOS
- Drive Capability 15pF max

Frequency Stabilities

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

Operating Temperature Range

- 10 to 70°C (CFPS-102, 103, 104)
- 20 to 70°C (CFPS-102S, 103S, 104S)
- 40 to 85°C (CFPS-102I, 103I, 104I)

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

Supply Voltage

- 1.8V CFPS-102
- 2.5V CFPS-103
- 3.3V CFPS-104

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 + Frequency

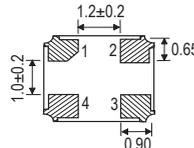
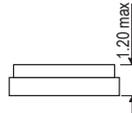
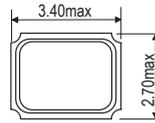
Packaging

- Bulk or Tape and Reel

Minimum Order Information Required

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

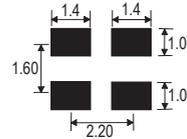
Outline (mm)



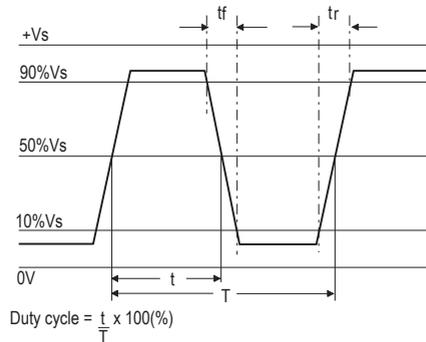
Pad Connections

- Enable/Disable
- GND
- Output
- +Vs

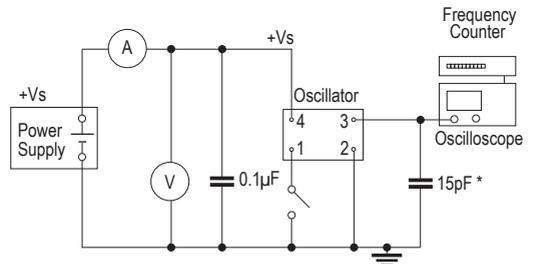
Solder pad layout



Output Waveform



Test Circuit



* Inclusive of jigging and equipment capacitance

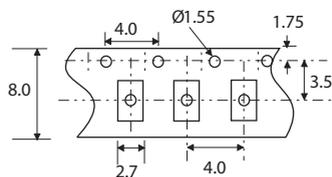
CLOCK OSCILLATORS

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	$\pm 20\text{ppm}$, $\pm 25\text{ppm}$, $\pm 50\text{ppm}$	$1.8\text{V} \pm 5\%$	1.5mA	50ns	50ns	40/60%	CFPS-102 CFPS-102S CFPS-102I
		$2.5\text{V} \pm 5\%$	2.5mA				CFPS-103 CFPS-103S CFPS-103I
		$3.3\text{V} \pm 5\%$	3.5mA				CFPS-104 CFPS-104S CFPS-104I
Ordering Example Frequency _____ Model No. _____ Operating Temperature Code: I = -40 to 85°C ; S = -20 to 70°C ; not applicable for -10 to 70°C Frequency Stability: G = $\pm 20\text{ppm}$, A = $\pm 25\text{ppm}$, B = $\pm 50\text{ppm}$							32.768kHz CFPS-104 A

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Tape (mm)



Reel (mm)

