

ISSUE 6; January 2025

Description

- 32.768kHz output crystal oscillator in a ceramic package, hermetically sealed with a seam sealed metal lid
- Suitable for real time clock applications



Frequency Parameters

- Frequency: 32.768kHz
- Frequency Stability: $\pm 20.00\text{ppm}$ to $\pm 50.00\text{ppm}$
- Ageing: $\pm 3\text{ppm}$ max per year

Electrical Parameters

- Supply Voltage: 3.3V $\pm 5\%$

Operating Temperature Ranges

- 10 to 70°C
- 20 to 70°C
- 40 to 85°C

Output Details

- Output Compatibility: CMOS
- Drive Capability: 15pF max

Output Control

- Standby 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
- Start-up Time: 35ms max
2ms typ to 90% of final amplitude (under ideal conditions @ 25°C)
- Standby Current: 20µA max, 1.7µA typ @ 25°C

Environmental Parameters

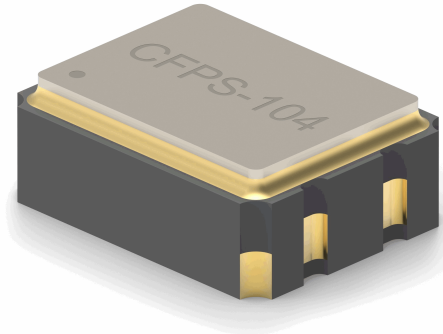
- Storage Temperature Range: -55 to 125°C
- Shock: MIL-STD-883F, Method 2002.4: 1500G, 0.5ms, 3 times in each of 3 mutually perpendicular planes
- Vibration: MIL-STD-883F, Method 2007.3: 20G (20Hz-2000Hz), 1.52mm amplitude, 20mins in 3 mutually perpendicular planes (total 4hrs)

Manufacturing Details

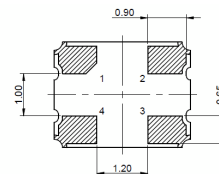
- RoHS Terminations: Au 0.3µm~1.0µm

Ordering Information

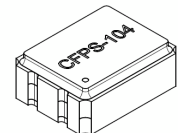
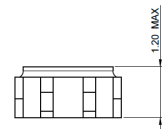
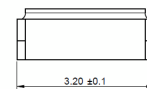
- Frequency*
- Model*
- Output
- Frequency Stability*
- Operating Temperature Range*
- Supply Voltage
- (*minimum required)
- Example
32.768kHz CFPS-104
CMOS $\pm 50\text{ppm}$ -10 to 70C 3.3V



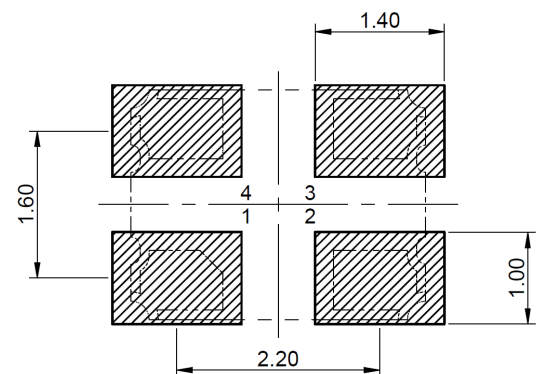
Outline (mm)



Pad Connections
1: Standby
2: GND
3: Output
4: Vs



Recommended Solder Pad Layout



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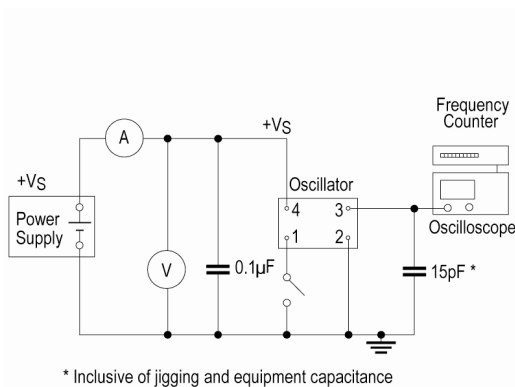
Compliance

- RoHS Status (2015/863/EU) Compliant
- REACH Status Compliant
- MSL Rating (JDEC-STD-033): Not Applicable

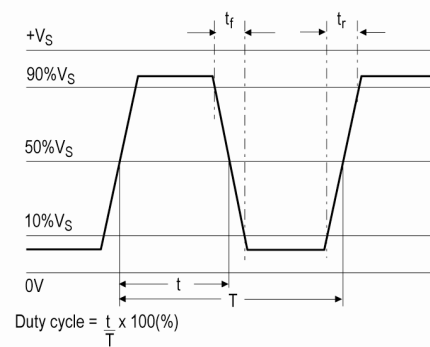
Packaging Details

- Tape & reel in accordance with EIA-481
Quantities below the standard reel size to be supplied on cut tape.
Standard Pack Quantity: 3,000

Test Circuit



Waveform



Electrical Specification - maximum limiting values 3.30V $\pm$ 5%

Frequency Min	Temperature Range	Stability (Min)	Current Draw	Rise and Fall Time	Duty Cycle
	°C	ppm	mA	ns	%
32.768kHz	-40 to 85	± 25.00	3.5	50	40/60%
	-20 to 70	± 20.00	3.5	50	40/60%
	-10 to 70	± 20.00	3.5	50	40/60%

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