

ISSUE 6; May 2024

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

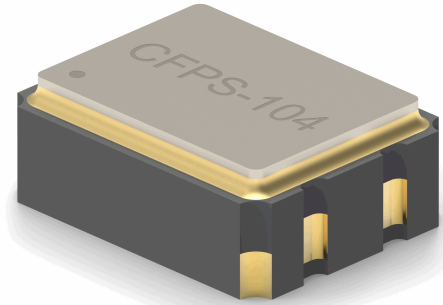
- Standby Operation:
 - Logic '1' (>70% VS) to pad 1 enables oscillator output
 - Logic '0' (<30% VS) to pad 1 disables oscillator output; when disabled the oscillator output goes to the high impedance state
 - No connection to pad 1 enables oscillator output
- Start-up Time: 35ms max
2ms typ to 90% of final amplitude (under ideal conditions @ 25°C)
- Standby Current: 20µA max, 1.7µA typ @ 25°C

Environmental Parameters

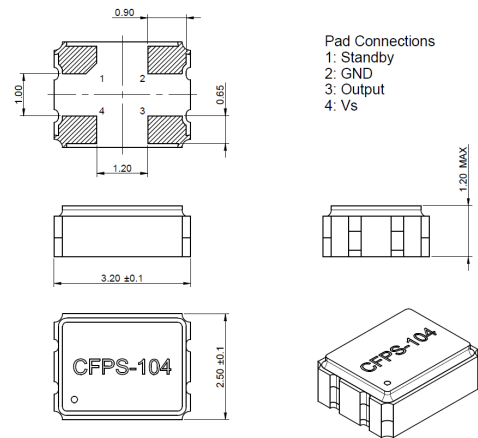
- Storage Temperature Range: -55 to 125°C
- Shock: MIL-STD-883F, Method 2002.4: 1500G, 0.5ms, 3 times in each of 3 mutually perpendicular planes
- Vibration: MIL-STD-883F, Method 2007.3: 20G (20Hz-2000Hz), 1.52mm amplitude, 20mins in 3 mutually perpendicular planes (total 4hrs)

Ordering Information

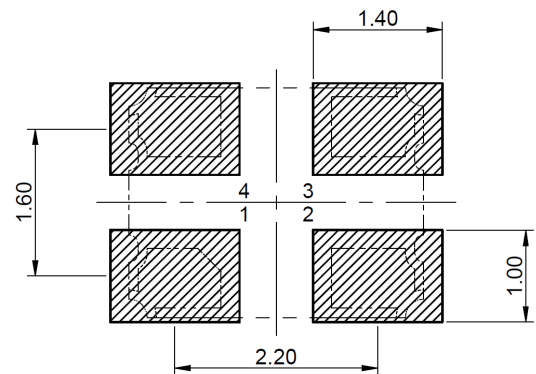
- Frequency*
- Model*
- Output
- Frequency Stability*
- Operating Temperature Range*
- Supply Voltage
- (*minimum required)
- Example
32.768kHz CFPS-104
CMOS $\pm 50\text{ppm}$ -10 to 70C 3.3V



Outline (mm)



Recommended Solder Pad Layout



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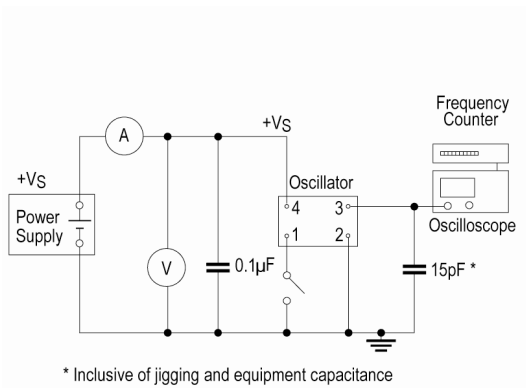
Compliance

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

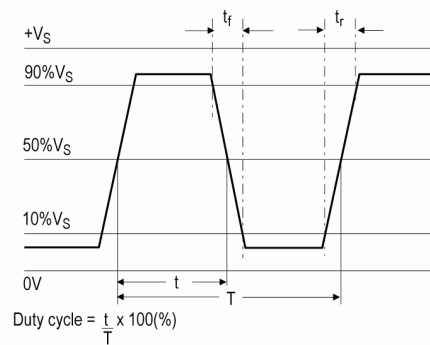
Packaging Details

- 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



Wave Form



Electrical Specification - maximum limiting values 3.30V ±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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