

ISSUE 7; July 2024

Description

- Surface mount 3.2 x 2.5mm crystal oscillator in a hermetically sealed ceramic package with a seam sealed metal lid. Fast Make capability: CFPP-39 programmable oscillator is the nearest equivalent fast make model.
- Note: please be aware that devices supplied against this model may show slight cosmetic differences depending upon the frequency and specification, however all electrical details remain as per the model specification.



Frequency Parameters

- Frequency: 1.8MHz to 170.0MHz
- Frequency Stability: $\pm 50.00\text{ppm}$ to $\pm 100.00\text{ppm}$
- Ageing: $\pm 5\text{ppm}$ max per year @ 25°C

Electrical Parameters

- Supply Voltage: 3.3V $\pm 10\%$

Operating Temperature Ranges

- 20 to 70°C
- 40 to 85°C

Output Details

- Output Compatibility: CMOS
- Drive Capability: 15pF max
- Output Low Vol: 10% Vs max
- Output High Voh: 90% Vs min
- Start-Up Time: 10ms 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
 - Standby Current: 10µA max

Noise Parameters

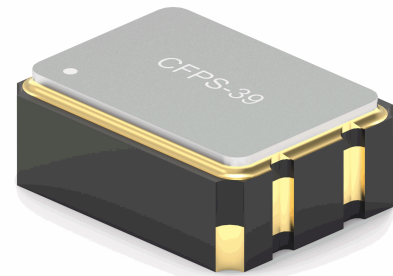
- RMS Phase Jitter:
 - (Bandwidth 12kHz to 5MHz): 1ps max, frequency range 10MHz~39.9MHz
 - (Bandwidth 12kHz to 20MHz): 1ps max, frequency range 40MHz~125MHz

Environmental Parameters

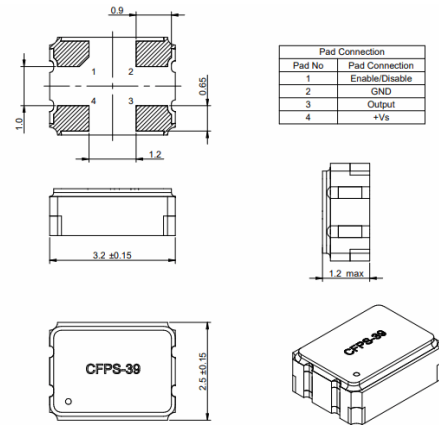
- Storage Temperature Range: -55 to 125°C
- Shock: Half Sine shock pulse with peak acceleration 500g; Pulse duration: 0.3ms
- Vibration: MIL-STD-202 Method 204. 5g for 20 minutes, 12 cycles in each of the 3 orientations, 10 - 2000 Hz. As per Table 11 of AEC-Q200.

Manufacturing Details

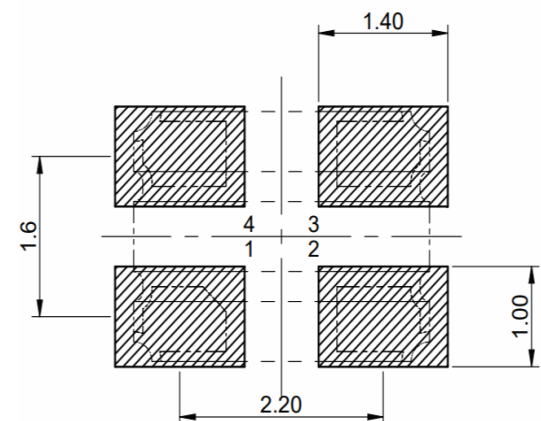
- RoHS Terminations: NiAu
- RoHS Reflow: 260°C max for 10s max



Outline (mm)



Recommended Solder Pad Layout



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Ordering Information

- Example
10.0MHz CFPS-39
CMOS $\pm 50\text{ppm}$ -10 to 70C 3.3V
- Frequency*
- Model*
- Output
- Frequency Stability*
- Operating Temperature Range*
- Supply Voltage
- (*minimum required)

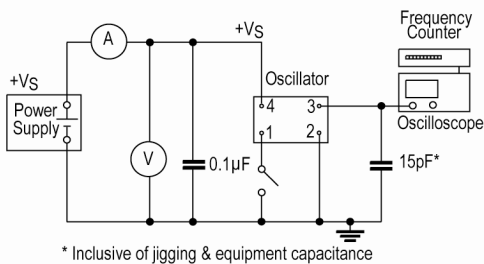
Compliance

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

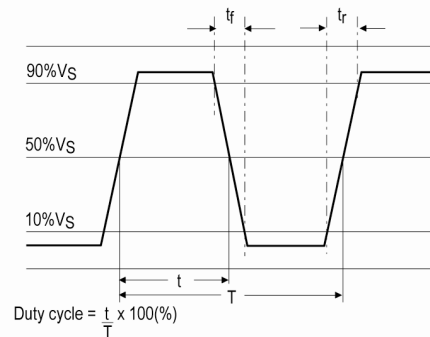
Packaging Details

- 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 $3.3\text{V} \pm 10\%$

| Frequency Min | Frequency Max | Temperature Range | Stability (Min) | Current Draw | Rise and Fall Time | Duty Cycle |
|---------------|---------------|--------------------|-----------------|--------------|--------------------|------------|
| | | $^{\circ}\text{C}$ | ppm | mA | ns | % |
| 1.8MHz | 49.999999MHz | -20 to 70 | ± 50.0 | 20 | 7 | 40/60 |
| | | -40 to 85 | ± 50.0 | 20 | 7 | 40/60 |
| 50.0MHz | 170.0MHz | -20 to 70 | ± 50.0 | 40 | 7 | 40/60 |
| | | -40 to 85 | ± 50.0 | 40 | 7 | 40/60 |

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