

ISSUE 8; January 2025

### 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

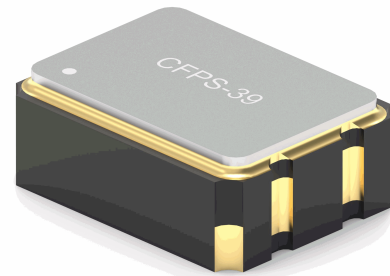
- RMS Phase Jitter:  
Frequency range 10MHz to 39.9MHz:  
Phase Jitter (12kHz to 5MHz): 1ps rms max  
Frequency range 40MHz to 125MHz:  
Phase Jitter (12kHz to 20MHz): 1ps rms max

### Environmental Parameters

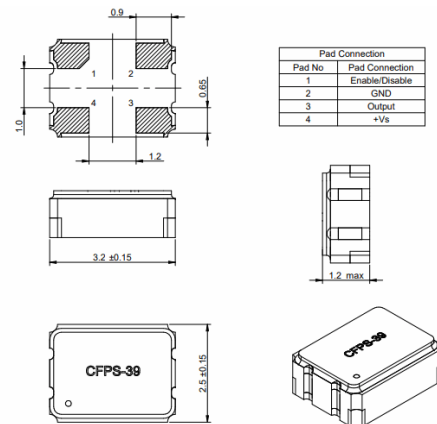
- Storage Temperature Range: -55 to 125°C
- Shock: Half Sine shock pulse with peak acceleration 500g; Pulse duration: 0.3ms
- Vibration: MIL-STD-202 Method 204. 5g for 20 minutes, 12 cycles in each of the 3 orientations, 10 - 2000 Hz. As per Table 11 of AEC-Q200.

### Manufacturing Details

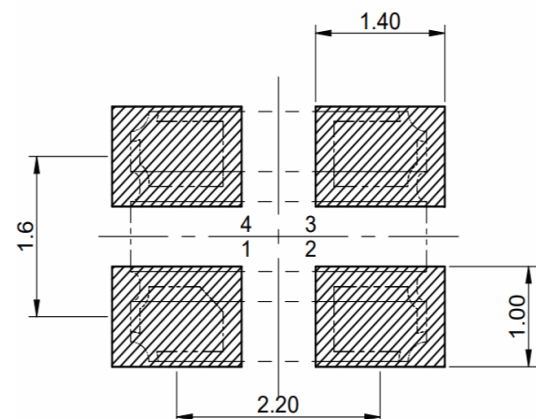
- RoHS Terminations NiAu
- RoHS Reflow 260°C max for 10s max



### Outline (mm)



### Recommended Solder Pad Layout



### Sales Office Contact Details:

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### Ordering Information

- Frequency\*  
Model\*  
Output  
Frequency Stability\*  
Operating Temperature Range\*  
Supply Voltage  
(\*minimum required)
- Example  
10.0MHz CFPS-39  
CMOS  $\pm 50\text{ppm}$  -20 to 70C 3.3V

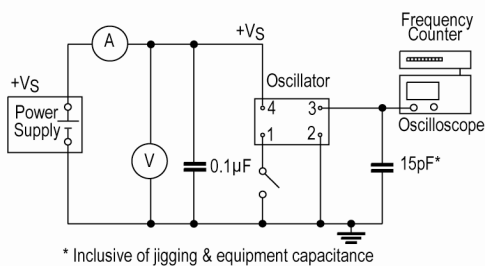
### Compliance

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

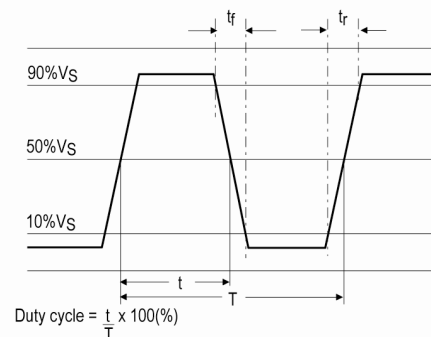
### Packaging Details

- 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 3.3V $\pm 10\%$

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

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