

ISSUE 2; May 2024

Description

- Ceramic package with a hermetically seam sealed metal lid suitable for automotive applications. Qualified to AEC-Q200 Rev D and with IATF-16949:2016 release. Not suitable for safety critical applications.

Frequency Parameters

- Frequency 2.0MHz to 50.0MHz
- Frequency Stability $\pm 25.00\text{ppm}$ 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

- -40 to 85°C
- -40 to 125°C

Output Details

- Output Compatibility CMOS
- Drive Capability 15pF

Output Control

- Enable/Disable Operation:
Logic '1' (>70% Vs) to pad 1 enables oscillator output.
Logic '0' (<30% Vs) to pad 1 disables oscillator output; the oscillator output goes to the high impedance state.
No connection to pad 1 enables oscillator output.
- Standby Current:
-40 to 85°C: 10µA max
-40 to 125°C: 20µA max

Environmental Parameters

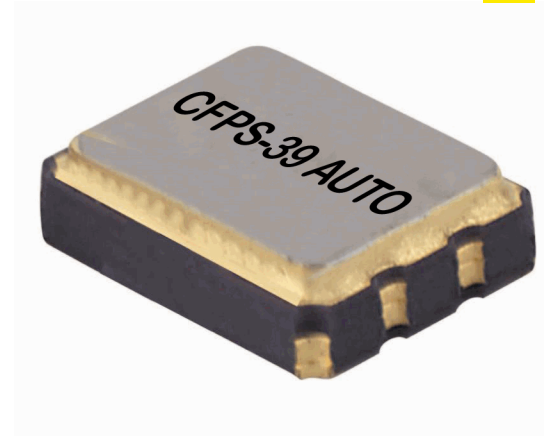
- Storage Temperature Range: -55 to 150°C
- Qualified to AEC-Q200 Rev D

Manufacturing Details

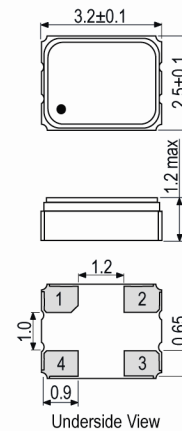
- Maximum Process Temperature: 260°C (10secs max)
- RoHS Terminations NiAu
- RoHS Reflow 260degC 10s

Ordering Information

- Frequency*
- Model*
- Output
- Frequency Stability*
- Operating Temperature Range*
- Supply Voltage (*minimum required)
- Example
20.0MHz CFPS-39 AUTO
CMOS $\pm 100\text{ppm}$ -40 to 125C 3.3V



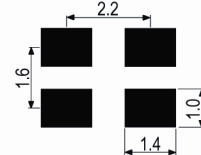
Outline (mm)



Pad Connections

1. Enable/Disable
2. GND
3. Output
4. +Vs

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
Standard Pack Quantity: 1,000

- Standard Pack Quantity: 3,000

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

- In tape, cut from a reel
Standard Pack Quantity: 100

Electrical Specification - maximum limiting values 3.3V ±10%

| Frequency Min | Frequency Max | Temperature Range | Stability (Min) | Current Draw | Rise and Fall Time | Duty Cycle |
|---------------|---------------|-------------------|-----------------|--------------|--------------------|------------|
| | | °C | ppm | mA | ns | % |
| 2.0MHz | 9.999999MHz | -40 to 85 | ±25.0 | 7 | 5 | 40/60% |
| | | -40 to 125 | ±50.0 | 7 | 5 | 40/60% |
| 10.0MHz | 19.999999MHz | -40 to 85 | ±25.0 | 7 | 5 | 40/60% |
| | | -40 to 125 | ±50.0 | 7 | 5 | 40/60% |
| 20.0MHz | 31.999999MHz | -40 to 85 | ±25.0 | 12 | 5 | 40/60% |
| | | -40 to 125 | ±50.0 | 12 | 5 | 40/60% |
| 32.0MHz | 50.0MHz | -40 to 85 | ±25.0 | 20 | 5 | 40/60% |
| | | -40 to 125 | ±50.0 | 20 | 5 | 40/60% |

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