



CFPS-39x AUTO

CFPS-39x AUTO

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

Model Name	Description
CFPS-39 AUTO	A 3.3V Version
CFPS-40 AUTO	A 2.5V Version
CFPS-41 AUTO	A 1.8V Version

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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

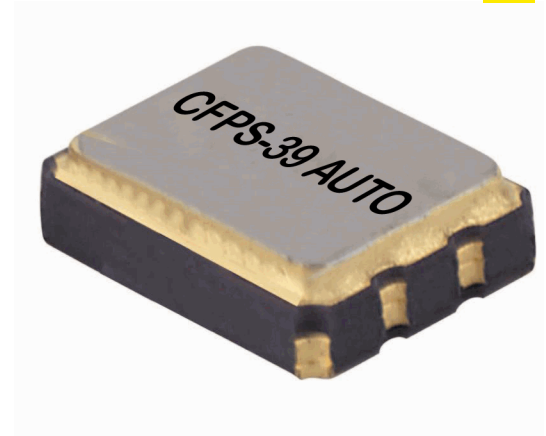
- Maximum Process Temperature: 260°C (10secs max)

Ordering Information

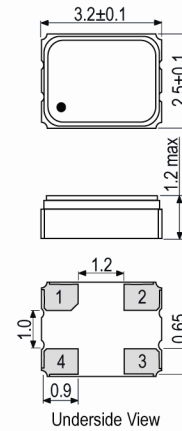
- Frequency*
- Model*
- Output
- Frequency Stability*
- Operating Temperature Range*
- Supply Voltage
- (*minimum required)
- Example
20.0MHz CFPS-39 AUTO
CMOS $\pm 100\text{ppm}$ -40 to 125C 3.3V

Compliance

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



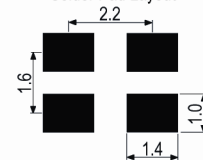
Outline (mm)



Pad Connections

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

Solder Pad Layout





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Packaging Details

- Tape & reel in accordance with EIA-481

Standard Reel Quantity: 1,000 Pieces

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Standard Reel Quantity: 3,000 Pieces

- Tape & reel in accordance with EIA-481
Quantities below the standard reel size to be supplied on cut tape.

Standard Reel Quantity: 3,000 Pieces

- In tape, cut from a reel

Standard Reel Quantity: 100 Pieces

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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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 2.5V $\pm 5\%$

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: 10 μ A max
-40 to 125°C: 20 μ A 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)

Ordering Information

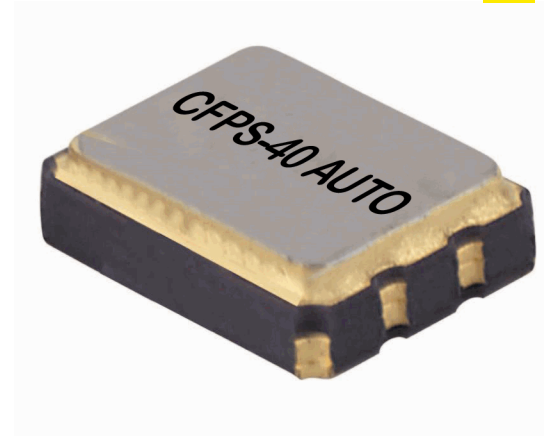
- Frequency*
- Model*
- Output
- Frequency Stability*
- Operating Temperature Range*
- Supply Voltage
(*minimum required)
- Example
20.0MHz CFPS-40 AUTO
CMOS $\pm 100\text{ppm}$ -40 to 125C 2.5V

Compliance

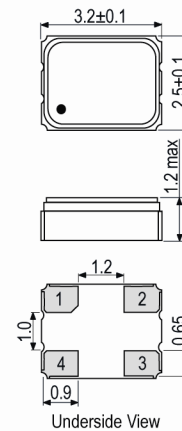
- RoHS Status (2015/863/EU) Compliant
- REACH Status Compliant
- MSL Rating (JDEC-STD-033): Not Applicable

Packaging Details

- Pack Style: RL3K Tape & reel in accordance with EIA-481
Pack Size: 3,000



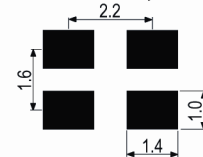
Outline (mm)



Pad Connections

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

Solder Pad Layout





Crystal Clock Oscillator Specification CFPS-40 AUTO

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Electrical Specification - maximum limiting values 2.5V \pm 5%

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 -40 to 125	\pm 25.0 \pm 50.0	6 6	5 5	40/60% 40/60%
10.0MHz	19.999999MHz	-40 to 85 -40 to 125	\pm 25.0 \pm 50.0	8 8	5 5	40/60% 40/60%
20.0MHz	31.999999MHz	-40 to 85 -40 to 125	\pm 25.0 \pm 50.0	8 8	5 5	40/60% 40/60%
32.0MHz	50.0MHz	-40 to 85 -40 to 125	\pm 25.0 \pm 50.0	20 20	5 5	40/60% 40/60%

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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: 1.8V $\pm 5\%$

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

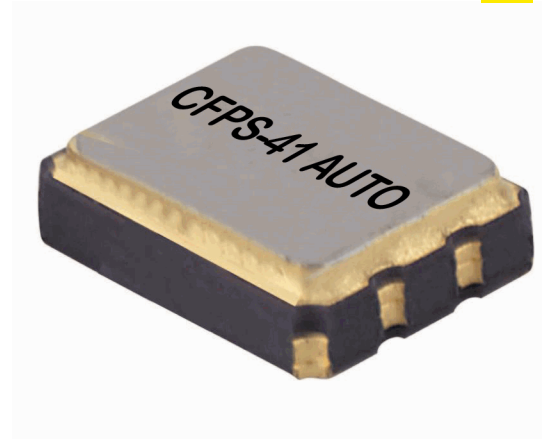
- Maximum Process Temperature: 260°C (10secs max)

Ordering Information

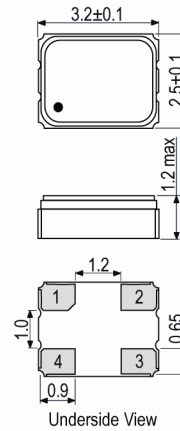
- Frequency*
- Model*
- Output
- Frequency Stability*
- Operating Temperature Range*
- Supply Voltage
(*minimum required)
- Example
20.0MHz CFPS-41 AUTO
CMOS $\pm 100\text{ppm}$ -40 to 125C 1.8V

Compliance

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



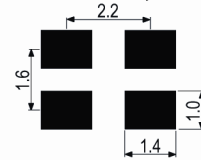
Outline (mm)



Pad Connections

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

Solder Pad Layout



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Packaging Details

- Pack Style: Cutt In tape, cut from a reel
Pack Size: 100
- Pack Style: RL3K Tape & reel in accordance with EIA-481
Pack Size: 3,000
- Pack Style: Reel Tape & reel in accordance with EIA-481
Pack Size: 1,000

Electrical Specification - maximum limiting values 1.8V ±5%

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	5	7	40/60%
		-40 to 125	±50.0	5	7	40/60%
10.0MHz	19.999999MHz	-40 to 85	±25.0	6	7	40/60%
		-40 to 125	±50.0	6	7	40/60%
20.0MHz	31.999999MHz	-40 to 85	±25.0	6	6	40/60%
		-40 to 125	±50.0	6	6	40/60%
32.0MHz	50.0MHz	-40 to 85	±25.0	15	6	40/60%
		-40 to 125	±50.0	15	6	40/60%

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Sales Office Contact Details:

UK: +44 (0)1460 270200

USA: +1 760 668 8935

Email: info@iqdfrequencyproducts.com

Web: www.iqdfrequencyproducts.com