



## CFPS-39x

CFPS-39x

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

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

ISSUE 6; November 2021

### 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.

### Frequency Parameters

- Frequency: 2.0MHz to 125.0MHz
- Frequency Stability:  $\pm 25.00\text{ppm}$  to  $\pm 100.00\text{ppm}$
- Ageing:  $\pm 3\text{ppm}$  max per year @ 25°C

### Electrical Parameters

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

### Operating Temperature Ranges

- 10 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.  
0.7ms typ to 90% of final amplitude (under ideal conditions @ 25°C)

### 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

### Environmental Parameters

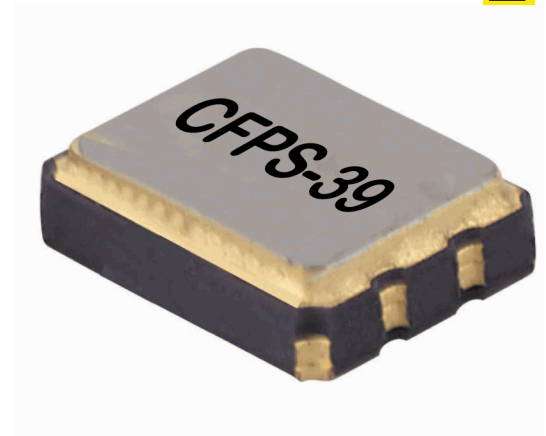
- Storage Temperature Range: -55 to 125°C
- Shock: MIL-STD-202F, Method 213B: 1000G, 0.5ms, 1/2 sine wave
- Vibration: MIL-STD-202F, Method 204D, Test Condition D: 20g (10Hz-2000Hz), 4hrs in 3 mutually perpendicular planes (total 12hrs)

### Ordering Information

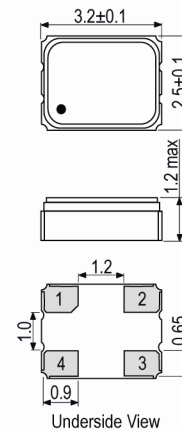
- Frequency\*  
Model\*  
Output  
Frequency Stability\*  
Operating Temperature Range\*  
Supply Voltage  
(\*minimum required)
- Example  
10.0MHz CFPS-39  
CMOS  $\pm 50\text{ppm}$  -10 to 70C 3.3V

### Compliance

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

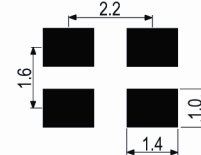


### Outline (mm)

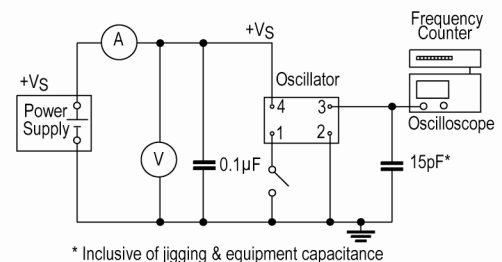


- Pad Connections
- Standby Operation
  - GND
  - Output
  - +Vs

### Solder Pad Layout



### Test Circuit

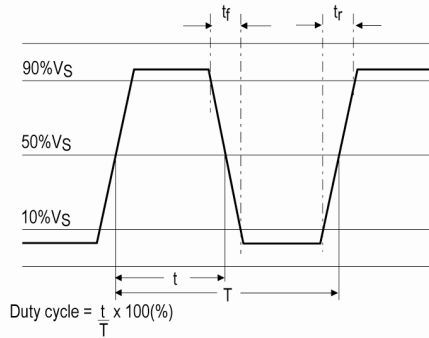


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### Packaging Details

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

### Wave Form



### 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	-10 to 70	±25.0	7	5	45/55%
		-40 to 85	±25.0	7	5	45/55%
10.0MHz	19.999999MHz	-10 to 70	±25.0	7	5	45/55%
		-40 to 85	±25.0	7	5	45/55%
20.0MHz	31.999999MHz	-10 to 70	±25.0	12	5	45/55%
		-40 to 85	±25.0	12	5	45/55%
32.0MHz	50.0MHz	-10 to 70	±25.0	20	5	45/55%
		-40 to 85	±25.0	20	5	45/55%
50.000001MHz	125.0MHz	-10 to 70	±25.0	30	5	40/60%
		-40 to 85	±25.0	30	5	40/60%

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ISSUE 6; October 2021

### 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-40 programmable oscillator is the nearest equivalent fast make model.

### Frequency Parameters

- Frequency: 2.0MHz to 125.0MHz
- Frequency Stability:  $\pm 25.00\text{ppm}$  to  $\pm 100.00\text{ppm}$
- Ageing:  $\pm 3\text{ppm}$  max per year @ 25°C

### Electrical Parameters

- Supply Voltage: 2.5V  $\pm 5\%$

### Operating Temperature Ranges

- 10 to 70°C
- 40 to 85°C

### Output Details

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

### 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

### Environmental Parameters

- Storage Temperature Range: -55 to 125°C
- Shock: MIL-STD-202F, Method 213B: 1000G, 0.5ms, 1/2 sine wave
- Vibration: MIL-STD-202F, Method 204D, Test Condition D: 20g (10Hz-2000Hz), 4hrs in 3 mutually perpendicular planes (total 12hrs)

### Ordering Information

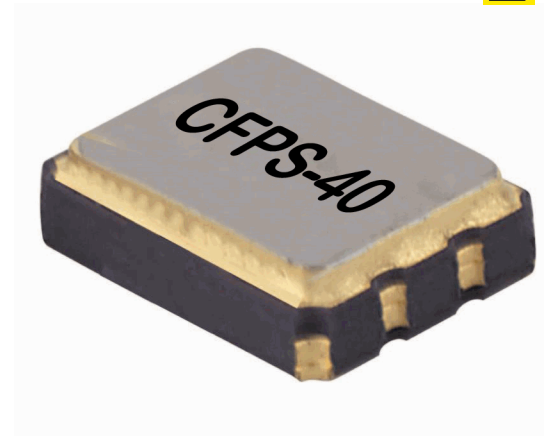
- Frequency\*
- Model\*
- Output
- Frequency Stability\*
- Operating Temperature Range\*
- Supply Voltage (\*minimum required)
- Example: 10.0MHz CFPS-40 CMOS  $\pm 50\text{ppm}$  -10 to 70C 2.5V

### Compliance

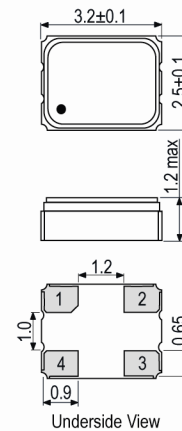
- RoHS Status (2015/863/EU): Compliant
- REACH Status: Compliant
- MSL Rating (JDEC-STD-033): Not Applicable

### Packaging Details

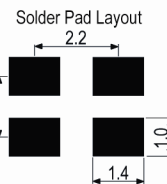
- Pack Style: Cutt In tape, cut from reel
- Pack Size: 100
- Pack Style: RL3K Tape & reel in accordance with EIA-481-D
- Pack Size: 3,000



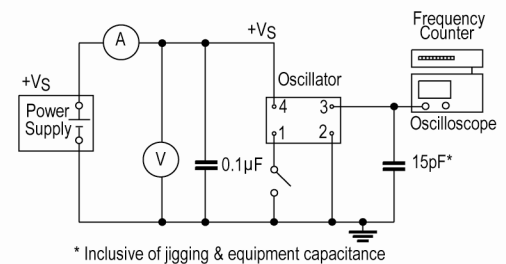
### Outline (mm)



- Pad Connections
- Standby Operation
  - GND
  - Output
  - +Vs

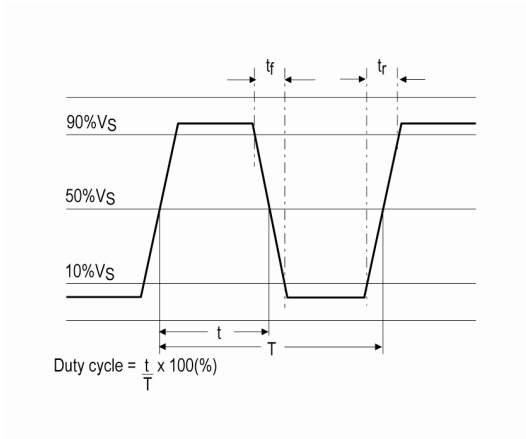


### Test Circuit



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### Wave Form



### Electrical Specification - maximum limiting values 2.5V ±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	-10 to 70 -40 to 85	±25.0 ±25.0	6 6	5 5	40/60% 40/60%
10.0MHz	19.999999MHz	-10 to 70 -40 to 85	±25.0 ±25.0	8 8	5 5	40/60% 40/60%
20.0MHz	31.999999MHz	-10 to 70 -40 to 85	±25.0 ±25.0	8 8	5 5	40/60% 40/60%
32.0MHz	50.0MHz	-10 to 70 -40 to 85	±25.0 ±25.0	20 20	5 5	40/60% 40/60%
50.000001MHz	125.0MHz	-10 to 70 -40 to 85	±25.0 ±25.0	30 30	5 5	40/60% 40/60%

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ISSUE 6; February 2022

### 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-41 programmable oscillator is the nearest equivalent fast make model.

### Frequency Parameters

- Frequency: 2.0MHz to 125.0MHz
- Frequency Stability:  $\pm 25.00\text{ppm}$  to  $\pm 100.00\text{ppm}$
- Ageing:  $\pm 3\text{ppm}$  max per year @ 25°C

### Electrical Parameters

- Supply Voltage: 1.8V  $\pm 5\%$

### Operating Temperature Ranges

- 10 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

### 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
- Start-Up Time: 10ms max

### Environmental Parameters

- Storage Temperature Range: -55 to 125°C
- Shock: MIL-STD-202F, Method 213B: 1000G, 0.5ms, 1/2 sine wave
- Vibration: MIL-STD-202F, Method 204D, Test Condition D: 20g (10Hz-2000Hz), 4hrs in 3 mutually perpendicular planes (total 12hrs)

### Ordering Information

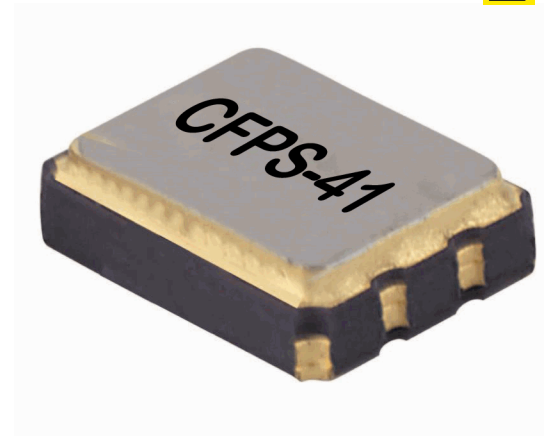
- Frequency\*
- Model\*
- Output
- Frequency Stability\*
- Operating Temperature Range\*
- Supply Voltage (\*minimum required)
- Example: 10.0MHz CFPS-41 CMOS  $\pm 50\text{ppm}$  -10 to 70C 1.8V

### Compliance

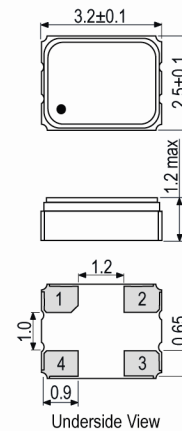
- RoHS Status (2015/863/EU): Compliant
- REACH Status: Compliant
- MSL Rating (JDEC-STD-033): Not Applicable

### Packaging Details

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

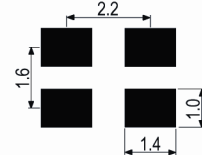


### Outline (mm)

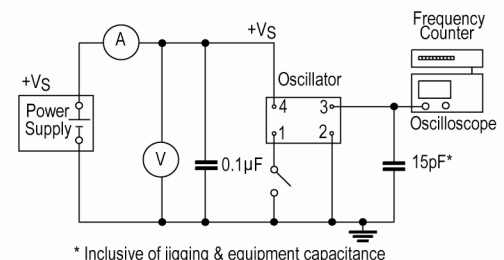


- Pad Connections
- Standby Operation
  - GND
  - Output
  - +Vs

### Solder Pad Layout

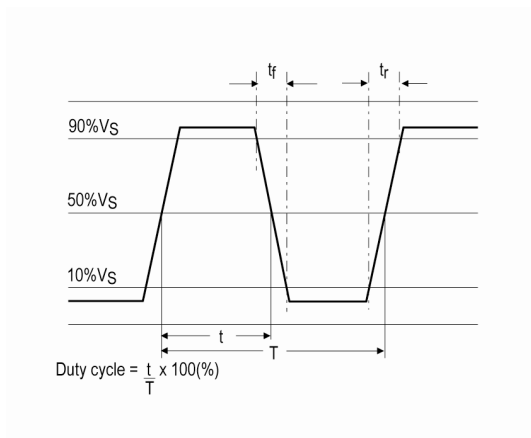


### Test Circuit



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### Wave Form



### 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	-10 to 70 -40 to 85	±25.0 ±25.0	5 5	7 7	40/60% 40/60%
10.0MHz	19.999999MHz	-10 to 70 -40 to 85	±25.0 ±25.0	6 6	7 7	40/60% 40/60%
20.0MHz	31.999999MHz	-10 to 70 -40 to 85	±25.0 ±25.0	6 6	6 6	40/60% 40/60%
32.0MHz	50.0MHz	-10 to 70 -40 to 85	±25.0 ±25.0	15 15	6 6	40/60% 40/60%
50.000001MHz	125.0MHz	-10 to 70 -40 to 85	±25.0 ±25.0	25 25	6 6	40/60% 40/60%

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