



## CFPP-39x

PLL based, one time only factory programmable for a fast lead time.  
Crystal oscillator in a hermetically sealed ceramic package with a metal lid.

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

ISSUE 10; October 2018

### Description

- PLL based, one time only factory programmable for a fast lead time.  
Crystal oscillator in a hermetically sealed ceramic package with a metal lid.  
See CFPS-39 for our standard crystal oscillator alternative.

### Frequency Parameters

- Frequency 1.0MHz to 110.0MHz
- Frequency Stability  $\pm 20.00\text{ppm}$  to  $\pm 100.00\text{ppm}$

### Electrical Parameters

- Supply Voltage 3.3V  $\pm 10\%$
- Standby Current: 10 $\mu\text{A}$  max
- Start Up Time: 8ms max

### Operating Temperature Ranges

- -10 to 60°C
- -20 to 70°C
- -40 to 85°C

### Output Details

- Output Compatibility CMOS
- Drive Capability 15pF max

### Output Control

- 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

### Noise Parameters

- Period Jitter: 150ps max

### Environmental Parameters

- Storage Temperature Range: -55 to 125°C

### Ordering Information

- Frequency\*
- Model\*
- Output Compatibility
- Frequency Stability (over operating temperature range)\*
- Operating Temperature Range\*
- Supply Voltage  
(\*minimum required)
- Example  
20.0MHz CFPP-39  
CMOS  $\pm 50\text{ppm}$  -40 to 85C 3.3V

### Compliance

- RoHS Status (2011/65/EU) Compliant
- REACH Status Compliant
- MSL Rating (JDEC-STD-033): Not Applicable

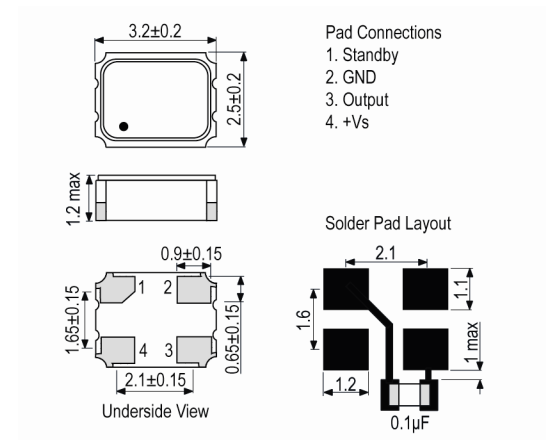
### Packaging Details

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

### Test Circuit

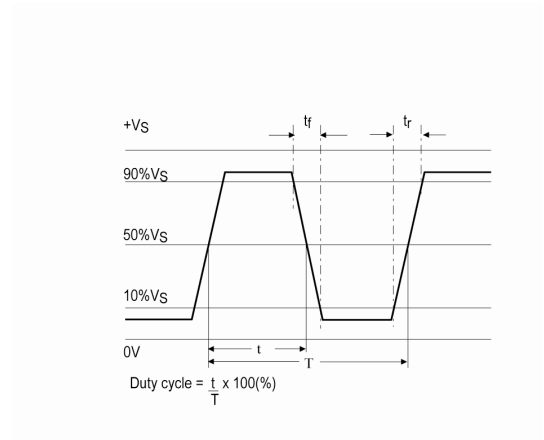
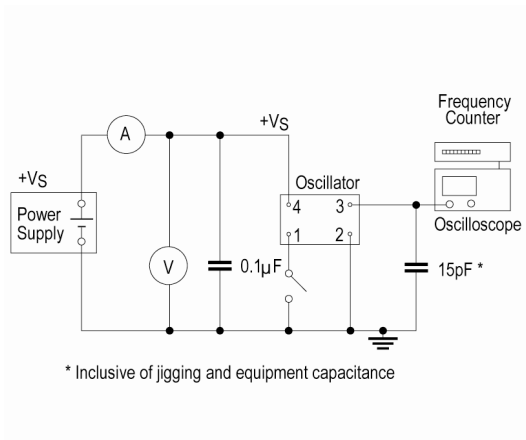


### Outline (mm)



### Wave Form

ISSUE 10; October 2018



### 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	%
1.0MHz	19.999999MHz	-10 to 60	±20.0	10	5	45/55%
		-20 to 70	±25.0	10	5	45/55%
		-40 to 85	±50.0	10	5	45/55%
20.0MHz	39.999999MHz	-10 to 60	±20.0	15	5	45/55%
		-20 to 70	±25.0	15	5	45/55%
		-40 to 85	±50.0	15	5	45/55%
40.0MHz	74.999999MHz	-10 to 60	±20.0	15	5	45/55%
		-20 to 70	±25.0	15	5	45/55%
		-40 to 85	±50.0	15	5	45/55%
75.0MHz	89.999999MHz	-10 to 60	±20.0	20	5	45/55%
		-20 to 70	±25.0	20	5	45/55%
		-40 to 85	±50.0	20	5	45/55%
90.0MHz	110.0MHz	-10 to 60	±20.0	25	5	45/55%
		-20 to 70	±25.0	25	5	45/55%
		-40 to 85	±50.0	25	5	45/55%

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ISSUE 10; October 2018

### Description

- PLL based, one time only factory programmable for a fast lead time.  
Crystal oscillator in a hermetically sealed ceramic package with a metal lid.  
See CFPS-40 for our standard crystal oscillator alternative.



### Frequency Parameters

- Frequency 1.0MHz to 90.0MHz
- Frequency Stability  $\pm 20.00\text{ppm}$  to  $\pm 100.00\text{ppm}$

### Electrical Parameters

- Supply Voltage 2.5V  $\pm 10\%$
- Standby Current: 10 $\mu\text{A}$  max
- Start Up Time: 8ms max

### Operating Temperature Ranges

- -10 to 60°C
- -20 to 70°C
- -40 to 85°C

### Output Details

- Output Compatibility CMOS
- Drive Capability 15pF max

### Output Control

- 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

### Noise Parameters

- Period Jitter: 150ps max

### Environmental Parameters

- Storage Temperature Range: -55 to 125°C

### Ordering Information

- Frequency\*
- Model\*
- Output Compatibility
- Frequency Stability (over operating temperature range)\*
- Operating Temperature Range\*
- Supply Voltage  
(\*minimum required)
- Example  
20.0MHz CFPP-40  
CMOS  $\pm 50\text{ppm}$  -40 to 85C 2.5V

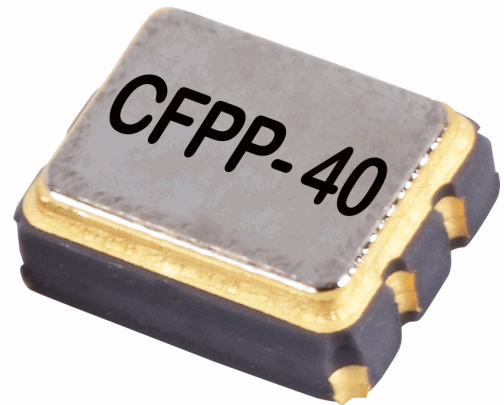
### Compliance

- RoHS Status (2011/65/EU) Compliant
- REACH Status Compliant
- MSL Rating (JDEC-STD-033): Not Applicable

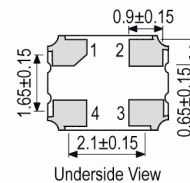
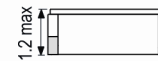
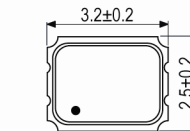
### Packaging Details

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

### Test Circuit



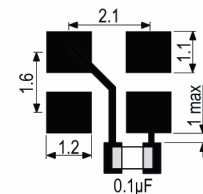
### Outline (mm)



### Pad Connections

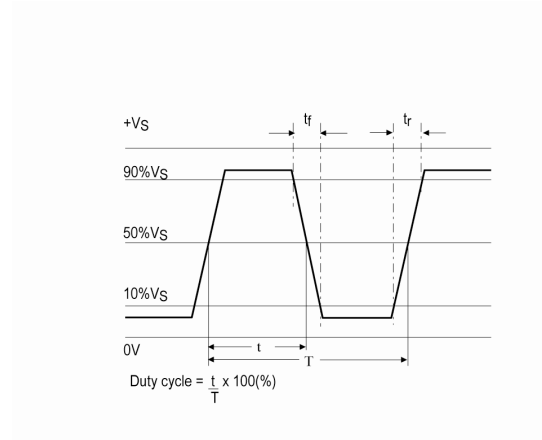
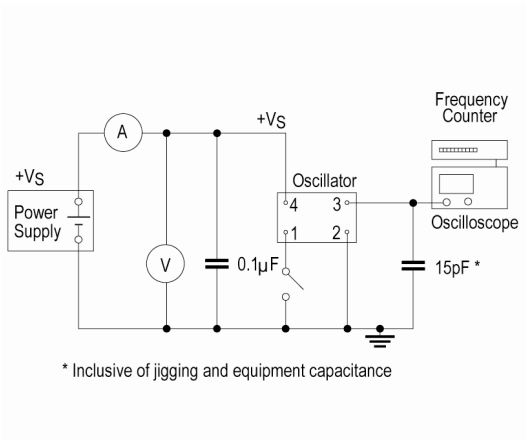
1. Standby
2. GND
3. Output
4. +Vs

### Solder Pad Layout



### Wave Form

ISSUE 10; October 2018



### Electrical Specification - maximum limiting values 2.5V ±10%

Frequency Min	Frequency Max	Temperature Range	Stability (Min)	Current Draw	Rise and Fall Time	Duty Cycle
		°C	ppm	mA	ns	%
1.0MHz	19.999999MHz	-10 to 60	±20.0	8	5	45/55%
		-20 to 70	±25.0	8	5	45/55%
		-40 to 85	±50.0	8	5	45/55%
20.0MHz	39.999999MHz	-10 to 60	±20.0	10	5	45/55%
		-20 to 70	±25.0	10	5	45/55%
		-40 to 85	±50.0	10	5	45/55%
40.0MHz	74.999999MHz	-10 to 60	±20.0	10	5	45/55%
		-20 to 70	±25.0	10	5	45/55%
		-40 to 85	±50.0	10	5	45/55%
75.0MHz	90.0MHz	-10 to 60	±20.0	15	5	45/55%
		-20 to 70	±25.0	15	5	45/55%
		-40 to 85	±50.0	15	5	45/55%

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ISSUE 10; October 2018

### Description

- PLL based, one time only factory programmable for a fast lead time.  
Crystal oscillator in a hermetically sealed ceramic package with a metal lid.  
See CFPS-41 for our standard crystal oscillator alternative.



### Frequency Parameters

- Frequency 1.0MHz to 75.0MHz
- Frequency Stability  $\pm 20.00\text{ppm}$  to  $\pm 100.00\text{ppm}$

### Electrical Parameters

- Supply Voltage 1.8V  $\pm 10\%$
- Standby Current: 10 $\mu\text{A}$  max
- Start Up Time: 8ms max

### Operating Temperature Ranges

- -10 to 60°C
- -20 to 70°C
- -40 to 85°C

### Output Details

- Output Compatibility CMOS
- Drive Capability 15pF max

### Output Control

- 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

### Noise Parameters

- Period Jitter: 150ps max

### Environmental Parameters

- Storage Temperature Range: -55 to 125°C

### Ordering Information

- Frequency\*
- Model\*
- Output Compatibility
- Frequency Stability (over operating temperature range)\*
- Operating Temperature Range\*
- Supply Voltage  
(\*minimum required)
- Example  
20.0MHz CFPP-41  
CMOS  $\pm 50\text{ppm}$  -40 to 85C 1.8V

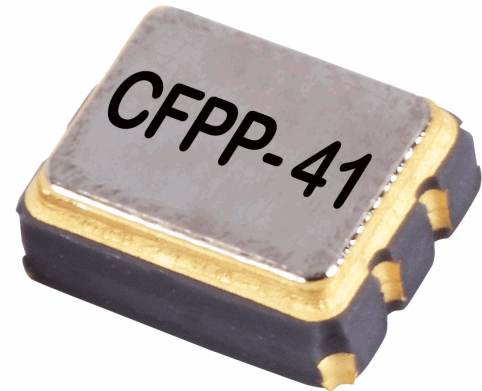
### Compliance

- RoHS Status (2011/65/EU) Compliant
- REACH Status Compliant
- MSL Rating (JDEC-STD-033): Not Applicable

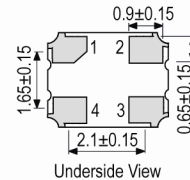
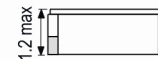
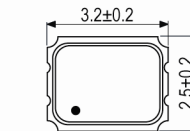
### Packaging Details

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

### Test Circuit



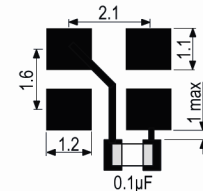
### Outline (mm)



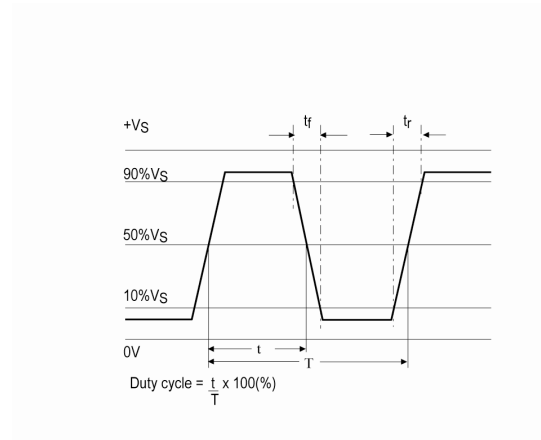
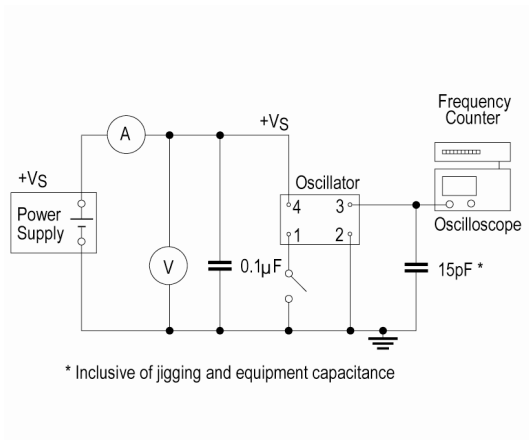
### Pad Connections

1. Standby
2. GND
3. Output
4. +Vs

### Solder Pad Layout



### Wave Form



### Electrical Specification - maximum limiting values 1.8V ±10%

Frequency Min	Frequency Max	Temperature Range	Stability (Min)	Current Draw	Rise and Fall Time	Duty Cycle
		°C	ppm	mA	ns	%
1.0MHz	19.999999MHz	-10 to 60	±20.0	6	5	45/55%
		-20 to 70	±25.0	6	5	45/55%
		-40 to 85	±50.0	6	5	45/55%
20.0MHz	39.999999MHz	-10 to 60	±20.0	7	5	45/55%
		-20 to 70	±25.0	7	5	45/55%
		-40 to 85	±50.0	7	5	45/55%
40.0MHz	75.0MHz	-10 to 60	±20.0	10	5	45/55%
		-20 to 70	±25.0	10	5	45/55%
		-40 to 85	±50.0	10	5	45/55%

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