



CFPP-53x

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-53	A 1.8V Version
CFPP-54	A 2.5V Version
CFPP-56	A 3.3V Version

ISSUE 6; 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-53 for our standard crystal oscillator alternative

Frequency Parameters

- Frequency 1.0MHz to 133.0MHz
- Frequency Stability $\pm 20.00\text{ppm}$ to $\pm 100.00\text{ppm}$

Electrical Parameters

- Supply Voltage 1.8V $\pm 10\%$
- Stand-by current: 15 μA max
- Start Up Time: 2ms max

Operating Temperature Ranges

- -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: 200ps 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-53
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

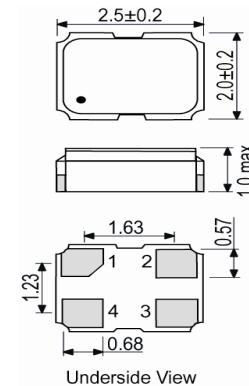
Packaging Details

- 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



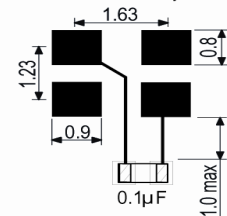
Outline (mm)



Pad Connections

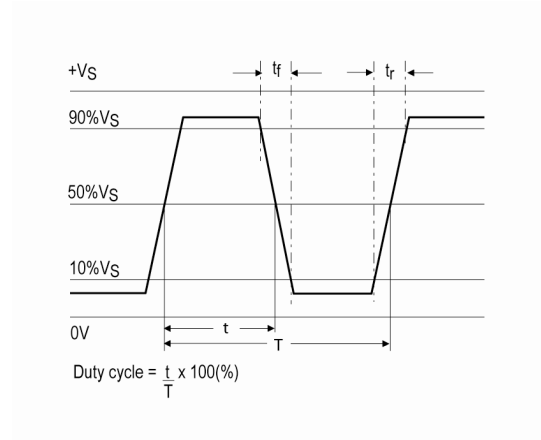
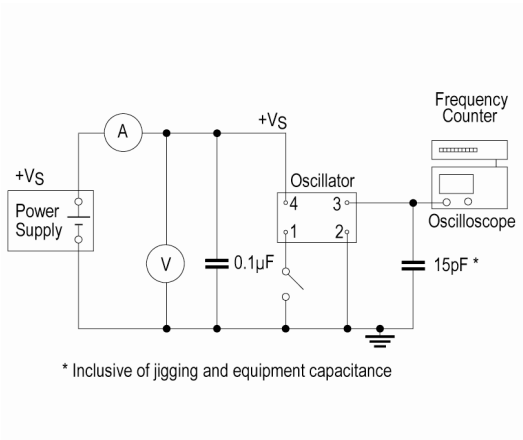
1. Standby
2. GND
3. Output
4. +Vs

Solder Pad Layout



Wave Form

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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	9.999999MHz	-20 to 70 -40 to 85	±20.0 ±20.0	6 6	5 5	45/55%
10.0MHz	29.999999MHz	-20 to 70 -40 to 85	±20.0 ±20.0	6 6	4 4	45/55%
30.0MHz	74.999999MHz	-20 to 70 -40 to 85	±20.0 ±20.0	8 8	4 4	45/55%
75.0MHz	133.0MHz	-20 to 70 -40 to 85	±20.0 ±20.0	12 12	4 4	45/55%

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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-54 for our standard crystal oscillator alternative

Frequency Parameters

- Frequency 1.0MHz to 166.0MHz
- Frequency Stability $\pm 20.00\text{ppm}$ to $\pm 100.00\text{ppm}$

Electrical Parameters

- Supply Voltage 2.5V $\pm 10\%$
- Stand-by current: 15 μA max
- Start Up Time: 2ms max

Operating Temperature Ranges

- -20 to 70°C
- -40 to 85°C

Output Details

- Output Compatibility CMOS
- Drive Capability 15pF max

Output Control

- Logic '1' ($>70\%V_S$) to pad 1 enables oscillator output
Logic '0' ($<30\%V_S$) 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: 200ps 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-54
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

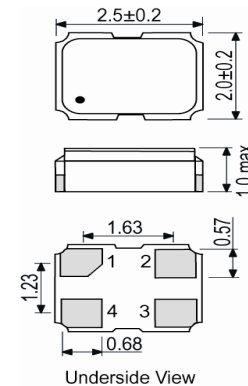
Packaging Details

- Pack Style: 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



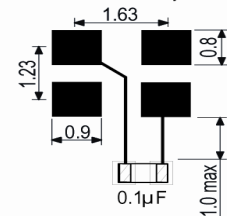
Outline (mm)



Pad Connections

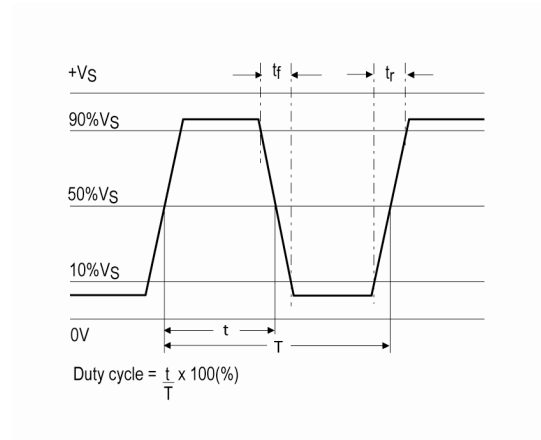
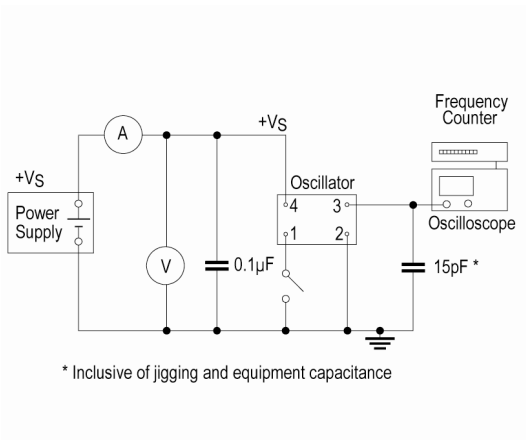
1. Standby
2. GND
3. Output
4. +Vs

Solder Pad Layout



Wave Form

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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	9.999999MHz	-20 to 70 -40 to 85	±20.0 ±20.0	8 8	4 4	45/55%
10.0MHz	29.999999MHz	-20 to 70 -40 to 85	±20.0 ±20.0	8 8	3 3	45/55%
30.0MHz	74.999999MHz	-20 to 70 -40 to 85	±20.0 ±20.0	10 10	3 3	45/55%
75.0MHz	132.999999MHz	-20 to 70 -40 to 85	±20.0 ±20.0	15 15	3 3	45/55%
133.0MHz	166.0MHz	-20 to 70 -40 to 85	±20.0 ±20.0	15 15	3 3	45/55%

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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-56 for our standard crystal oscillator alternative

Frequency Parameters

- Frequency 1.0MHz to 200.0MHz
- Frequency Stability $\pm 20.00\text{ppm}$ to $\pm 100.00\text{ppm}$

Electrical Parameters

- Supply Voltage 3.3V $\pm 10\%$
- Stand-by current: 15 μA max
- Start Up Time: 2ms max

Operating Temperature Ranges

- -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: 200ps 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-56
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

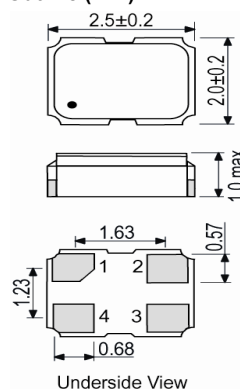
Packaging Details

- Pack Style: 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



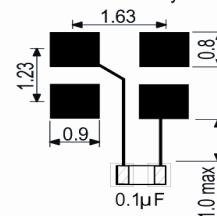
Outline (mm)



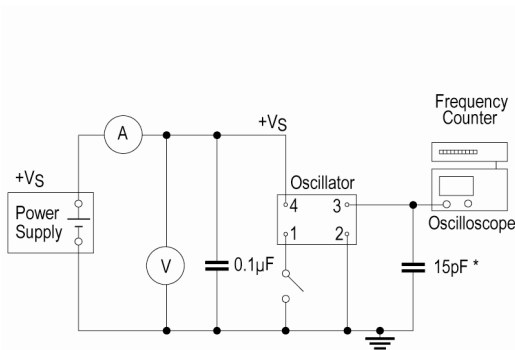
Pad Connections

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

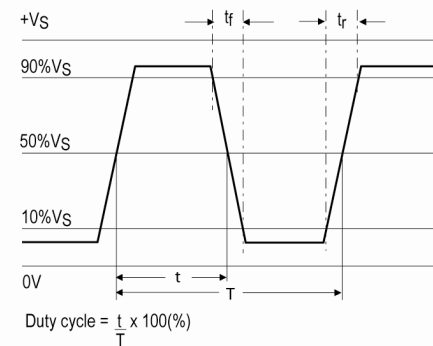
Solder Pad Layout



Wave Form



* Inclusive of jigging and equipment capacitance



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	9.999999MHz	-20 to 70 -40 to 85	±20.0 ±20.0	10 10	5 5	45/55%
10.0MHz	29.999999MHz	-20 to 70 -40 to 85	±20.0 ±20.0	10 10	4 4	45/55%
30.0MHz	74.999999MHz	-20 to 70 -40 to 85	±20.0 ±20.0	15 15	4 4	45/55%
75.0MHz	132.999999MHz	-20 to 70 -40 to 85	±20.0 ±20.0	20 20	4 4	45/55%
133.0MHz	165.999999MHz	-20 to 70 -40 to 85	±20.0 ±20.0	22 22	4 4	45/55%
166.0MHz	200.0MHz	-20 to 70 -40 to 85	±20.0 ±20.0	25 25	4 4	45/55%

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