



CFPS-6x

Low supply current crystal oscillators

Ceramic package with a seam sealed metal lid, hermetically sealed

Please see our CFPS-9 package for standard 5 x 3.2 oscillators

Model Name	Description
CFPS-67	A 2.5V version
CFPS-68	A 2.8V version
CFPS-69	A 3.3V version

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Description

- Low supply current crystal oscillators
Ceramic package with a seam sealed metal lid, hermetically sealed
Please see our CFPS-37 package for standard 5 x 3.2 oscillators

Frequency Parameters

- Frequency: 1.8MHz to 50.0MHz
- Frequency Stability: $\pm 25.00\text{ppm}$ to $\pm 100.00\text{ppm}$
- Ageing: $\pm 3\text{ppm}$ max per year

Electrical Parameters

- Supply Voltage: 2.5V $\pm 5\%$
- Standby Current: 1 μA max

Operating Temperature Ranges

- 10 to 70°C
- 40 to 85°C

Output Details

- Output Compatibility: CMOS
- Drive Capability: 15pF max

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 the oscillator output goes to the high impedance state
No connection to pad 1 enables oscillator output

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
20.0MHz CFPS-67
CMOS $\pm 50\text{ppm}$ -10 to 70C 2.5V

Compliance

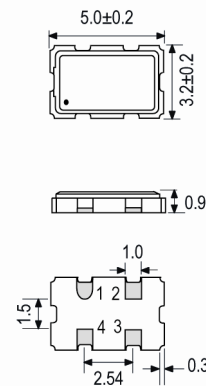
- RoHS Status (2011/65/EU): Compliant
- REACH Status: Compliant
- MSL Rating (JDEC-STD-033): Not Applicable

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

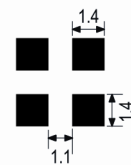


Outline (mm)

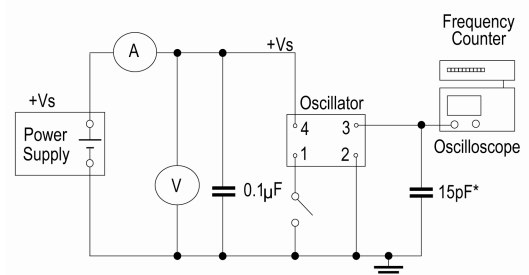


- Pad Connections
- Standby Operation
 - GND
 - Output
 - +Vs

Solder Pad Layout



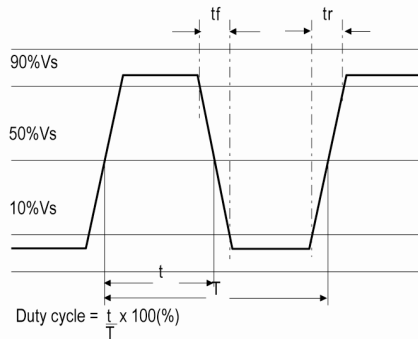
Test Circuit



*Inclusive of jiggging and equipment capacitance

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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	%
1.8MHz	31.999999MHz	-10 to 70	±25.0	3.5	12	45/55%
		-40 to 85	±50.0	3.5	12	45/55%
32.0MHz	50.0MHz	-10 to 70	±25.0	4.5	12	45/55%
		-40 to 85	±50.0	4.5	12	45/55%

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Description

- Low supply current crystal oscillators
Ceramic package with a seam sealed metal lid, hermetically sealed

Frequency Parameters

- Frequency: 1.8MHz to 50.0MHz
- Frequency Stability: $\pm 25.00\text{ppm}$ to $\pm 100.00\text{ppm}$
- Ageing: $\pm 3\text{ppm}$ max per year

Electrical Parameters

- Supply Voltage: $2.8\text{V} \pm 5\%$
- Standby Current: $1\mu\text{A}$ max

Operating Temperature Ranges

- 10 to 70°C
- 40 to 85°C

Output Details

- Output Compatibility: CMOS
- Drive Capability: 15pF max

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 the oscillator output goes to the high impedance state
No connection to pad 1 enables oscillator output

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
20.0MHz CFPS-68
CMOS $\pm 50\text{ppm}$ -10 to 70°C 2.8V

Compliance

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

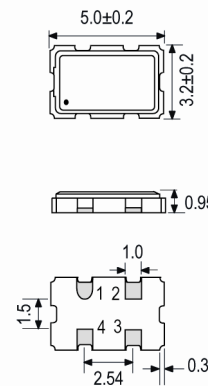
Packaging Details

- 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

Wave Form

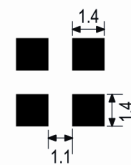


Outline (mm)

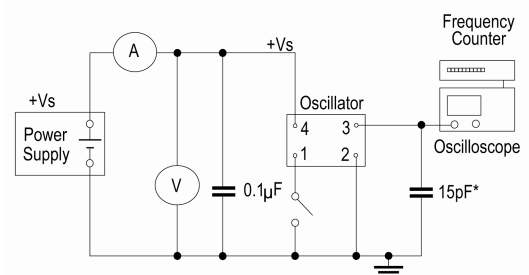


Pad Connections
 1. Standby Operation
 2. GND
 3. Output
 4. +Vs

Solder Pad Layout

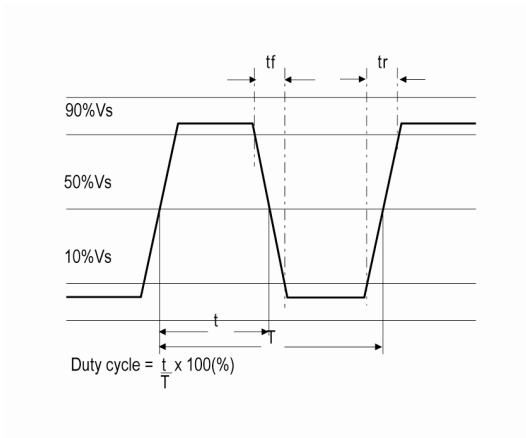


Test Circuit



*Inclusive of jiggging and equipment capacitance

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Electrical Specification - maximum limiting values 2.8V ±5%

Frequency Min	Frequency Max	Temperature Range	Stability (Min)	Current Draw	Rise and Fall Time	Duty Cycle
		°C	ppm	mA	ns	%
1.8MHz	31.999999MHz	-10 to 70	±25.0	4	12	45/55%
		-40 to 85	±50.0	4	12	45/55%
32.0MHz	50.0MHz	-10 to 70	±25.0	5	12	45/55%
		-40 to 85	±50.0	5	12	45/55%

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Description

- Low supply current crystal oscillators
Ceramic package with a seam sealed metal lid, hermetically sealed
Please see our CFPS-9 package for standard 5 x 3.2 oscillators

Frequency Parameters

- Frequency: 1.8MHz to 50.0MHz
- Frequency Stability: $\pm 25.00\text{ppm}$ to $\pm 100.00\text{ppm}$
- Ageing: $\pm 3\text{ppm}$ max per year

Electrical Parameters

- Supply Voltage: $3.3\text{V} \pm 5\%$
- Standby Current: $1\mu\text{A}$ max

Operating Temperature Ranges

- 10 to 70°C
- 40 to 85°C

Output Details

- Output Compatibility: CMOS
- Drive Capability: 15pF max

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 the oscillator output goes to the high impedance state
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Environmental Parameters

- Storage Temperature Range: -55 to 125°C
- Shock: MIL-STD-202F, Method 213B: 1000G, 0.5ms, 1/2 sine wave
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Ordering Information

- Frequency*
- Model*
- Output
- Frequency Stability*
- Operating Temperature Range*
- Supply Voltage
(*minimum required)
- Example
20.0MHz CFPS-69
CMOS $\pm 50\text{ppm}$ -10 to 70C 3.3V

Compliance

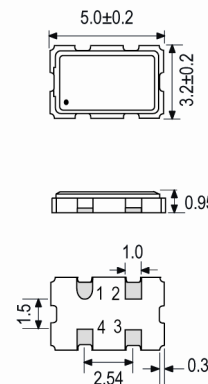
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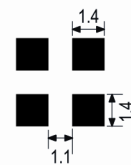


Outline (mm)

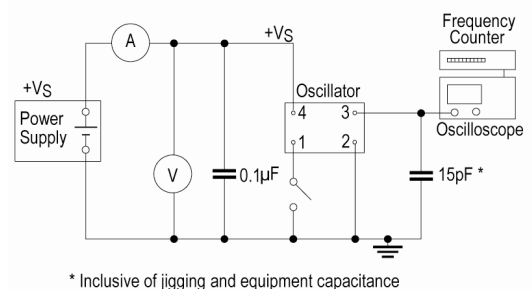


Pad Connections
 1. Standby Operation
 2. GND
 3. Output
 4. +VS

Solder Pad Layout

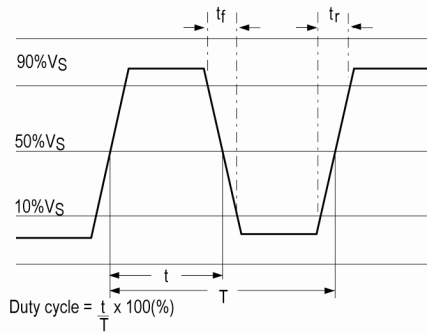


Test Circuit



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Wave Form



Electrical Specification - maximum limiting values 3.3V ±5%

Frequency Min	Frequency Max	Temperature Range	Stability (Min)	Current Draw	Rise and Fall Time	Duty Cycle
		°C	ppm	mA	ns	%
1.8MHz	31.999999MHz	-10 to 70	±25.0	4.5	12	45/55%
		-40 to 85	±50.0	4.5	12	45/55%
32.0MHz	50.0MHz	-10 to 70	±25.0	6	12	45/55%
		-40 to 85	±50.0	6	12	45/55%

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