

ISSUE 8; September 2019

### Description

- Standard 5 x 3.2mm crystal oscillator  
Ceramic package with a seam sealed metal lid, hermetically sealed  
Please see our CFPS-12 for a 5.0V version of this package  
Please see our CFPS-37 for a 2.5V version of this package  
Please see our CFPS-69 for a low current version of this package  
Fast Make capability: CFPS-9 programmable oscillator as the nearest equivalent fast make model
- Note: please be aware that devices supplied against this model may show slight cosmetic differences depending upon the frequency and specification, however all electrical details remain as per the model specification.

### Frequency Parameters

- Frequency: 500.0kHz to 160.0MHz
- 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  $\pm 0.3\text{V}$

### 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  
0.8ms typ to 90% of final amplitude (under ideal conditions @ 25°C)

### 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; when disabled the oscillator output goes to the high impedance state  
No connection to pad 1 enables oscillator output  
Standby Current: 10µA max, 0.9µA typ @25°C

### Environmental Parameters

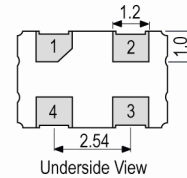
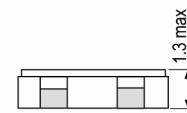
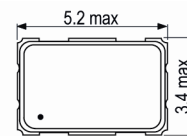
- Storage Temperature Range: -55 to 125°C
- Shock: MIL-STD-202F, Method 213B: 1000G, 0.5ms, 1/2 sine wave
- Vibration: MIL-STD-202F, Method 204D, Test Condition D: 20G (10Hz-2000Hz), 4hrs in 3 mutually perpendicular planes (total 12hrs)

### Manufacturing Details

- RoHS Terminations: NiAu
- RoHS Reflow: 260°C 10s max



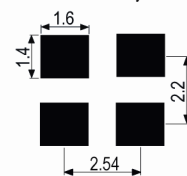
### Outline (mm)



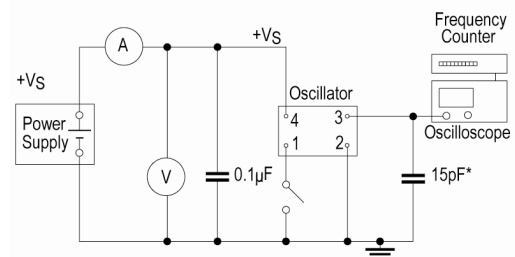
### Pad Connections

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

### Solder Pad Layout



### Test Circuit



\* Inclusive of jiggging and equipment capacitance

### Sales Office Contact Details:

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### Ordering Information

- Frequency\*  
Model\*  
Output  
Frequency Stability\*  
Operating Temperature Range\*  
Supply Voltage
- Example:  
10.0MHz CFPS-9  
CMOS  $\pm 50$ ppm -10 to 70C 3.3V

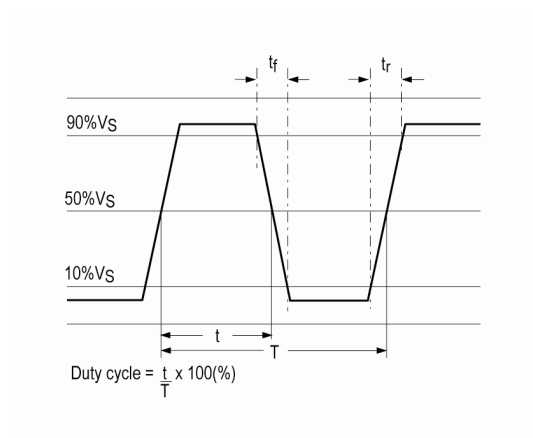
### Compliance

- 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

### Wave Form



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Electrical Specification - maximum limiting values 3.3V  $\pm$ 0.3V

Frequency Min	Frequency Max	Temperature Range	Stability (Min)	Current Draw	Rise and Fall Time	Duty Cycle
		°C	ppm	mA	ns	%
500.0kHz	9.999999MHz	-10 to 70 -40 to 85	$\pm$ 25.0 $\pm$ 25.0	20 20	10 10	40/60% 40/60%
10.0MHz	19.999999MHz	-10 to 70 -40 to 85	$\pm$ 25.0 $\pm$ 25.0	20 20	10 10	40/60% 40/60%
20.0MHz	31.999999MHz	-10 to 70 -40 to 85	$\pm$ 25.0 $\pm$ 25.0	20 20	10 10	40/60% 40/60%
32.0MHz	49.999999MHz	-10 to 70 -40 to 85	$\pm$ 25.0 $\pm$ 25.0	20 20	10 10	40/60% 40/60%
50.0MHz	79.999999MHz	-10 to 70 -40 to 85	$\pm$ 25.0 $\pm$ 25.0	30 30	8 8	40/60% 40/60%
80.0MHz	99.999999MHz	-10 to 70 -40 to 85	$\pm$ 25.0 $\pm$ 25.0	40 40	5 5	40/60% 40/60%
100.0MHz	160.0MHz	-10 to 70 -40 to 85	$\pm$ 25.0 $\pm$ 25.0	50 50	4 4	40/60% 40/60%

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