



ISSUE 4; September 2012 - RoHS 2011/65/EU



### Description

- Standard 3.2 x 2.5 crystal oscillator
- Ceramic package with a seam sealed metal lid, hermetically sealed
- Fast Make capability: CFPP-39 programmable oscillator is the nearest equivalent fast make model
- MEMS capability: IQMS-520 oscillator is the nearest equivalent MEMS model

### Frequency Range

- Frequency 2.0 to 50.0 MHz

### Supply Voltage

- Voltage 3.3V  $\pm 10\%$

### Ageing

- Ageing  $\pm 3\text{ppm}$  max per year @ 25°C

### Output Compatibility & Load

- Output Compatibility CMOS
- Drive Capability 15pF max

### Frequency Stabilities

- Frequency Stability  $\pm 25\text{ppm}$ ,  $\pm 100\text{ppm}$   
(inclusive of supply voltage and output load variations over the operating temperature range)

### Operating Temperature Ranges

- 10 to 70°C
- 40 to 85°C

### Output Control

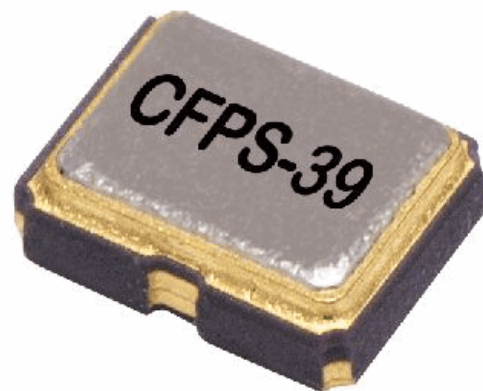
- Standby Operation:  
Logic '1' (>70% VS) to pad 1 enables oscillator output  
Logic '0' (<30% VS) to pad 1 disables oscillator output; when disabled the oscillator output goes to the high impedance state  
No connection to pad 1 enables oscillator output  
Standby Current: 10 $\mu$ A max  
Start-Up Time: 10ms max

### Environmental Parameters

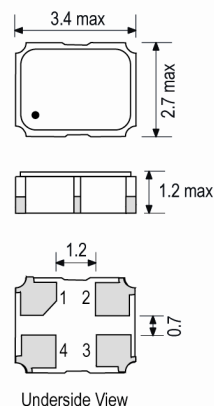
- Storage Temperature Range: -55 to 125°C
- Shock: MIL-STD-202F, Method 213B: 1000G, 0.5ms, 1/2 sine wave
- Vibration: MIL-STD-202F, Method 204D, Test Condition D: 20G (10Hz-2000Hz), 4hrs in 3 mutually perpendicular planes (total 12hrs)

### Ordering Information (\*minimum required)

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

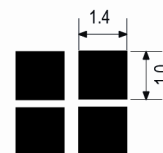


### Outline (mm)

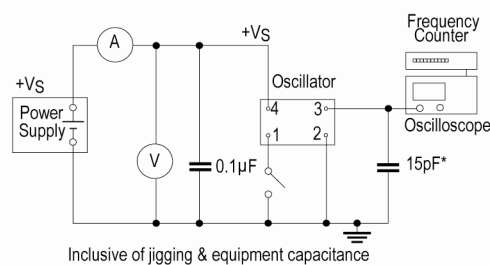


Pad Connections  
1. Standby Operation  
2. GND  
3. Output  
4. +Vs

Solder Pad Layout



### Test Circuit



### Sales Office Contact Details:

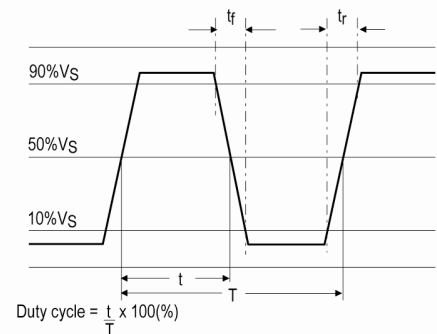
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**Packing Details**

- Pack Style: **Bulk**                      Loose in bulk pack  
Pack Size                                      100
- Pack Style: **Reel**                        Tape and reel in accordance with EIA-481-D  
Pack Size                                      1,000
- Alternative packing options available

**Wave Form****Electrical Specification - maximum limiting values 3.3V ±10%**

| Frequency Range      | Temp Range  | Stability Inclusive |         | Current Draw | Rise & Fall (10 to 90%) | Duty Cycle % |
|----------------------|-------------|---------------------|---------|--------------|-------------------------|--------------|
|                      |             | Min                 | Max     |              |                         |              |
| 2.0 to 9.999999MHz   | -10 to 70°C | ±25ppm              | ±100ppm | 7.0mA        | 5ns                     | 45/55%       |
|                      | -40 to 85°C | ±25ppm              | ±100ppm | 7.0mA        | 5ns                     | 45/55%       |
| 10.0 to 19.999999MHz | -10 to 70°C | ±25ppm              | ±100ppm | 7.0mA        | 5ns                     | 45/55%       |
|                      | -40 to 85°C | ±25ppm              | ±100ppm | 7.0mA        | 5ns                     | 45/55%       |
| 20.0 to 31.999999MHz | -10 to 70°C | ±25ppm              | ±100ppm | 12.0mA       | 5ns                     | 45/55%       |
|                      | -40 to 85°C | ±25ppm              | ±100ppm | 12.0mA       | 5ns                     | 45/55%       |
| 32.0 to 50.0MHz      | -10 to 70°C | ±25ppm              | ±100ppm | 20.0mA       | 5ns                     | 45/55%       |
|                      | -40 to 85°C | ±25ppm              | ±100ppm | 20.0mA       | 5ns                     | 45/55%       |

*This document was correct at the time of printing; please contact your local sales office for the latest version*

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