

### Customer Part:

#### Description

- Surface mount 3.2 x 2.5mm crystal oscillator in a hermetically sealed ceramic package with a seam sealed metal lid.
- Model CFPS-39
- Model Issue number 8
- 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 12.0MHz
- Frequency Stability  $\pm 25.00\text{ppm}$
- Operating Temperature Range  $-40.00$  to  $85.00^\circ\text{C}$
- Ageing  $\pm 5\text{ppm}$  max per year @  $25^\circ\text{C}$

#### Electrical Parameters

- Supply Voltage  $3.3\text{V} \pm 10\%$
- Current Draw  $20.000\text{mA}$

#### Output Details

- Output Compatibility CMOS
- Drive Capability  $15\text{pF}$  max
- Rise and Fall Time  $7.0\text{ns}$  max
- Duty Cycle  $40/60$
- Output Low VoL:  $10\%$  Vs max
- Output High VoH:  $90\%$  Vs min
- Start-Up Time:  $10\text{ms}$  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 disabled the oscillator output goes to the high impedance state  
No connection to pad 1 enables oscillator output  
Standby Current:  $10\mu\text{A}$  max

#### Noise Parameters

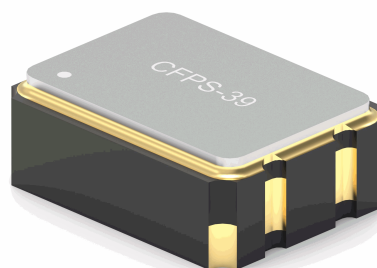
- RMS Phase Jitter:  
Frequency range  $10\text{MHz}$  to  $39.9\text{MHz}$ :  
Phase Jitter ( $12\text{kHz}$  to  $5\text{MHz}$ ):  $1\text{ps}$  rms max  
Frequency range  $40\text{MHz}$  to  $125\text{MHz}$ :  
Phase Jitter ( $12\text{kHz}$  to  $20\text{MHz}$ ):  $1\text{ps}$  rms max

#### Environmental Parameters

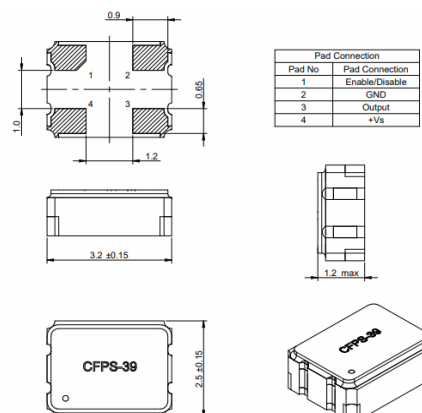
- Storage Temperature Range:  $-55$  to  $125^\circ\text{C}$
- Shock: Half Sine shock pulse with peak acceleration  $500\text{g}$ ; Pulse duration:  $0.3\text{ms}$
- Vibration: MIL-STD-202 Method 204.  $5\text{g}$  for 20 minutes, 12 cycles in each of the 3 orientations,  $10 - 2000\text{Hz}$ . As per Table 11 of AEC-Q200.

#### Manufacturing Details

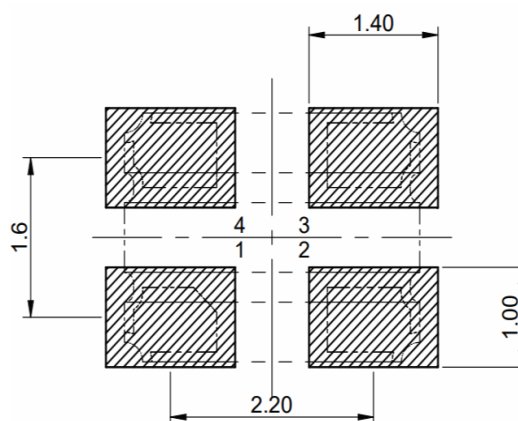
- RoHS Terminations NiAu
- RoHS Reflow Temp  $260^\circ\text{C}$  max for  $10\text{s}$  max



#### Outline (mm)



#### Recommended Solder Pad Layout



#### Sales Office Contact Details:

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### Customer Part:

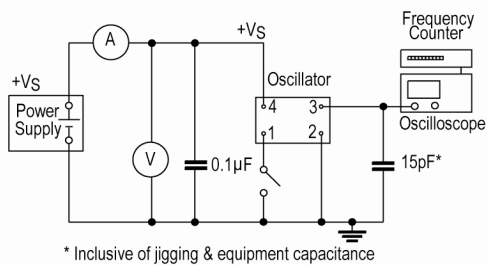
#### Compliance

- RoHS Status (2015/863/EU)      Compliant
- REACH Status                      Compliant
- MSL Rating (JDEC-STD-033):    Not Applicable

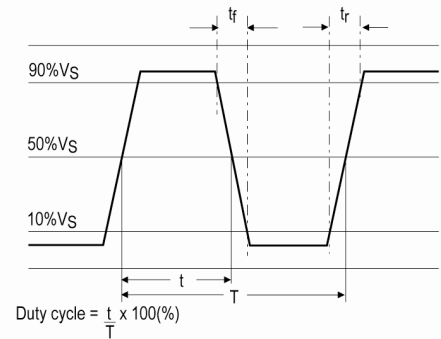
#### Packaging Details

- Tape & reel in accordance with EIA-481  
Quantities below the standard reel size to be supplied on cut tape
- Standard Pack Quantity: 3,000

### Test Circuit



### Waveform



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