

ISSUE 7; July 2016

### Description

- Surface mount temperature compensated voltage controlled crystal oscillator (TCVCO) in a hermetically sealed ceramic package



### Frequency Parameters

- Frequency: 10.0MHz to 26.0MHz
- Frequency Tolerance:  $\pm 0.50$ ppm
- Frequency Stability:  $\pm 1.50$ ppm to  $\pm 5.00$ ppm
- Ageing:  $\pm 1$ ppm typ in 1st year @ 25°C
- Supply Voltage Variation (@  $\pm 5\%$  change):  $\pm 0.2$ ppm max
- Load Variation (@  $\pm 10\%$  change):  $\pm 0.2$ ppm max

### Electrical Parameters

- Supply Voltage: 3.0V  $\pm 0.3$ V

### Frequency Adjustment

- Pulling:  $\pm 5$ ppm min
- Control Voltage: 1.5V  $\pm 1.0$ V
- Input Impedance: 1M $\Omega$
- Frequency movement is positive sense
- Input Impedance (Pad 1): 1.0M $\Omega$  min

### Operating Temperature Ranges

- 0 to 50°C
- 10 to 60°C
- 20 to 70°C
- 30 to 80°C
- 40 to 85°C
- 30 to 85°C

### Output Details

- Output Compatibility: Clipped Sine
- Drive Capability: 10k $\Omega$ /10pF  $\pm 10\%$
- Output Level: 0.8Vpk-pk minimum

### Noise Parameters

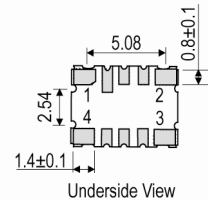
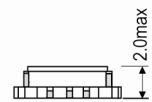
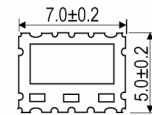
- Phase Noise (typical @ 10MHz):
  - 90dBc/Hz @ 10Hz
  - 110dBc/Hz @ 100Hz
  - 140dBc/Hz @ 1kHz
  - 145dBc/Hz @ 10kHz

### Environmental Parameters

- Storage Temperature Range: -55 to 125°C
- Shock: MIL-STD-883D, Method 2002.3, Test Condition B: 1500G, 0.5ms, 1/2 sine wave, 3 shocks in each of 3 mutually perpendicular planes
- Vibration: MIL-STD-883D, Method 2005.2, Test Condition B: 20G (20Hz-2000Hz), 1.5mm amplitude, in 3 mutually perpendicular planes, 4hrs in each plane



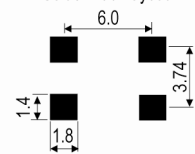
### Outline (mm)



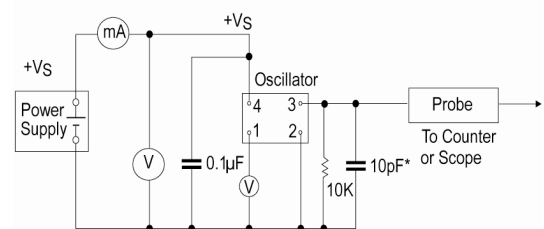
### Pad Connections

- Voltage Control
- GND
- Output
- +Vs

### Solder Pad Layout



### Test Circuit



\* Inclusive of jiggging and equipment capacitance

### Sales Office Contact Details:

UK: +44 (0)1460 270200  
Germany: 0800 1808 443

France: 0800 901 383  
USA: +1.760.318.2824

Email: [info@iqdfrequencyproducts.com](mailto:info@iqdfrequencyproducts.com)  
Web: [www.iqdfrequencyproducts.com](http://www.iqdfrequencyproducts.com)

#### Ordering Information

- Frequency\*  
Model\*  
Output  
Frequency Stability (over operating temperature range)\*  
Operating Temperature Range\*  
Supply Voltage
- Example  
13.0MHz CFPT-123  
Clipped Sine  $\pm 2.5$ ppm -30 to 80C 3.0V

#### 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: Bulk      Loose in bulk pack  
Pack Size: 100
- Pack Style: Cutt      In tape, cut from a reel  
Pack Size: 1

#### Electrical Specification - maximum limiting values 3.0V $\pm 0.3$ V

Frequency Min	Frequency Max	Temperature Range	Stability (Min)	Current Draw	Rise and Fall Time	Duty Cycle
		°C	ppm	mA	ns	%
10.0MHz	26.0MHz	0 to 50	$\pm 1.5$	2.5	-	-
		-10 to 60	$\pm 1.5$	2.5	-	-
		-20 to 70	$\pm 2.0$	2.5	-	-
		-30 to 85	$\pm 2.0$	2.5	-	-
		-40 to 85	$\pm 2.5$	2.5	-	-

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