



ISSUE 8; August 2012 - RoHS 2011/65/EU



Description

- Surface mount temperature compensated voltage controlled crystal oscillator (TCVCXO) providing a high degree of frequency stability over a wide temperature range in a hermetically sealed ceramic package and is particularly suited to applications where space is at a premium.

Frequency Range

- Frequency 10.000 to 30.000MHz

Supply Voltage

- Voltage 3.0V ± 0.15 V
- Frequency Tolerance ± 0.5 ppm

Ageing

- Ageing ± 1 ppm typ in 1st year @ 25°C

Output Compatibility & Load

- Output Compatibility Clipped Sine
- Drive Capability 10k Ω // 10pF $\pm 10\%$

Frequency Stabilities

- Frequency Stability ± 1.50 ppm

Operating Temperature Ranges

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

Electrical Parameters

- Supply Voltage Variation: ± 0.2 ppm (5% change)
- Load Variation: ± 0.2 ppm max (10% change)

Frequency Adjustment

- Pulling ± 3 ppm min to ± 7 ppm max
- Control Voltage 1.5V ± 1.0 V
- Input Impedance (Pad1): 1.0M Ω min

Output Details

- Output: 0.8Vpk-pk min

Noise Parameter

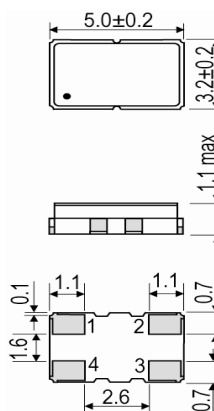
- Phase Noise (typical @ 13MHz)
 - 80dBc/Hz @ 10Hz
 - 105dBc/Hz @ 100Hz
 - 130dBc/Hz @ 1kHz
 - 140dBc/Hz @ 10kHz

Environmental Parameters

- 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



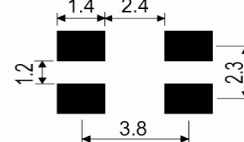
Outline (mm)



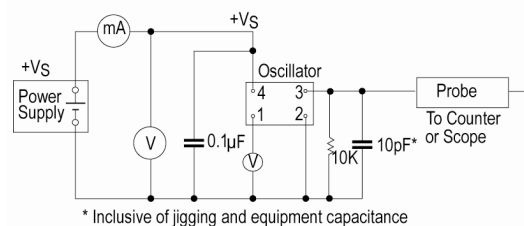
Underside View

Pad Connections
 1. Voltage Control
 2. GND
 3. Output
 4. +Vs

Solder Pad Layout



Test Circuit



* Inclusive of jiggig and equipment capacitance

Sales Office Contact Details:

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- Storage Temperature Range: –55 to 125°C

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**Ordering Information (*minimum required)**

- Frequency*
- Model*
- Output
- Frequency Stability (over operating temperature range)*
- Operating Temperature Range*
- Supply Voltage
- Example
- 13.0MHz CFPT-141
- Clipped Sine $\pm 2.5\text{ppm}$ -30 to 85C 3V

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

Electrical Specification - maximum limiting values 3.0V $\pm 0.15\text{V}$

Frequency Range	Temp Range	Stability	Output Waveform	Supply Current
10.00 to 30.000MHz	0 to 50°C	$\pm 1.50\text{ppm}$	Clipped Sine	2.0mA
	-10 to 60°C	$\pm 1.50\text{ppm}$		
	-20 to 70°C	$\pm 1.50\text{ppm}$		
	-30 to 85°C	$\pm 1.50\text{ppm}$		
	-40 to 85°C	$\pm 1.50\text{ppm}$		

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

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