



**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.
- Model CFPT-141
- Model Issue number 8

**Frequency Parameters**

- Frequency 20.0MHz
- Frequency Tolerance  $\pm 0.50\text{ppm}$
- Frequency Stability  $\pm 2.50\text{ppm}$
- Operating Temperature Range -30.00 to 85.00°C
- Ageing  $\pm 1\text{ppm typ in 1st year @ } 25^\circ\text{C}$

**Electrical Parameters**

- Supply Voltage  $3.0\text{V} \pm 0.15\text{V}$
- Current Draw 2.00mA
- Supply Voltage Variation:  $\pm 0.2\text{ppm}$  (5% change)
- Load Variation:  $\pm 0.2\text{ppm max}$  (10% change)

**Frequency Adjustment**

- Pulling  $\pm 3\text{ppm min to } \pm 7\text{ppm max}$
- Control Voltage  $1.5\text{V} \pm 1.0\text{V}$
- Input Impedance (Pad1):  $1.0\text{M}\Omega$  min

**Output Details**

- Output Compatibility Clipped Sine
- Drive Capability  $10\text{k}\Omega // 10\text{pF} \pm 10\%$
- Output:  $0.8\text{Vpk-pk min}$

**Noise Parameters**

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

**Environmental Parameters**

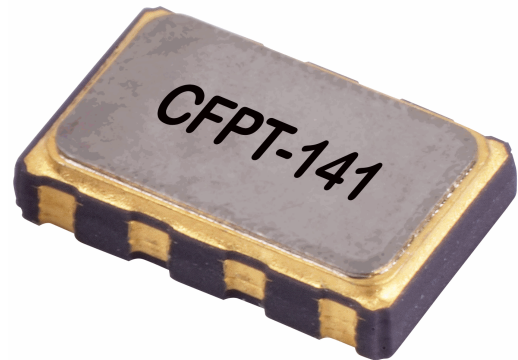
- Shock: MIL-STD-883D, Method 2002.3, Test Condition B: 1500G, 0.5ms, 1/2 sine wave, 3 shocks in each of 3 mutually perpendicular planes
- Vibration: MIL-STD-883D, Method 2005.2, Test Condition B: 20G (20Hz-2000Hz), 1.5mm amplitude, in 3 mutually perpendicular planes, 4hrs in each plane
- Storage Temperature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

**Compliance**

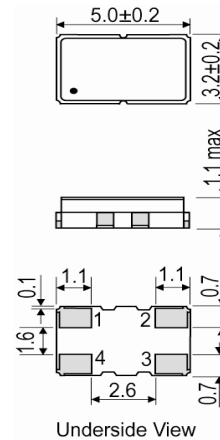
- RoHS Status (2011/65/EU) Compliant
- REACH Status Compliant
- MSL Rating (JDEC-STD-033): Not Applicable

**Packaging Details**

- Pack Style: Bulk Loose in bulk pack
- Pack Size: 100
- *Alternative packing option available*

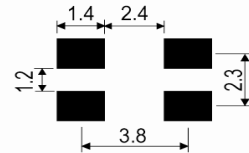


**Outline (mm)**

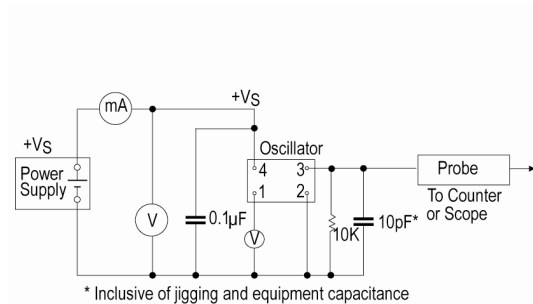


- Pad Connections**
1. Voltage Control
  2. GND
  3. Output
  4. +Vs

**Solder Pad Layout**



**Test Circuit**



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