



ISSUE 2; September 2014 - RoHS 2011/65/EU

Description

- Surface mount temperature compensated crystal oscillator (TCXO) in a miniature ceramic package



Frequency Parameters

- Frequency: 13.0MHz to 38.4MHz
- Frequency Tolerance: $\pm 2.00\text{ppm}$
- Tolerance Condition: $@25\pm 2^\circ\text{C}$
- Frequency Stability: $\pm 0.50\text{ppm}$ to $\pm 2.00\text{ppm}$
- Ageing: $\pm 1\text{ppm}$ max per year $@25\pm 2^\circ\text{C}$
- Supply Voltage Variation: $\pm 0.2\text{ppm}$ max
- Load Variation: $\pm 0.1\text{ppm}$ max

Electrical Parameters

- Supply Voltage: $1.8\text{V} \pm 5\%$

Operating Temperature Ranges

- -30 to 85°C

Output Details

- Output Compatibility: Clipped Sine
- Drive Capability: $10\text{k}\Omega / 10\text{pF} \pm 10\%$
- Output Compatibility & Load: Clipped Sine 0.8pk-pk minimum, $10\text{k}\Omega // 10\text{pF} \pm 10\%$

Noise Parameters

- Phase Noise (typical)
 - -80dBc/Hz @ 10Hz
 - -105dBc/Hz @ 100Hz
 - -130dBc/Hz @ 1kHz
 - -145dBc/Hz @ 10kHz
- Harmonics: -5dBc max

Environmental Parameters

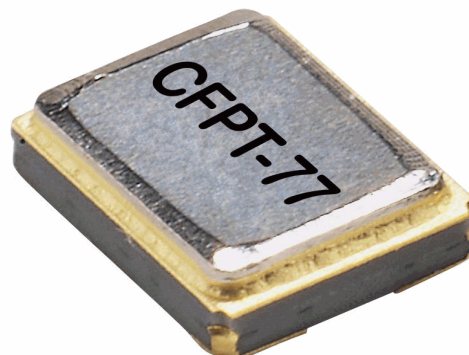
- Storage Temperature Range: -40 to 85°C
- Drop: 150cm drop (6 directions x 3 times) onto hard wooden board
- Vibration: 1.5mm amplitude, 10Hz - 55Hz - 10Hz , sweep rate 1min in 3 mutually perpendicular planes, duration 2hrs each plane
- MSL 1

Manufacturing Details

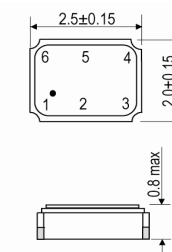
- Soldering: Suitable for Convection Reflow soldering. Peak temperature 260°C for 10sec max
- Washing: Not recommended

Ordering Information

- Frequency*
- Model*
- Output
- Frequency Stability (over operating temperature range)*
- Operating Temperature Range*
- Supply Voltage
- (*minimum required)
- Example
- 13.0MHz CFPT-77
- Clipped Sine $\pm 2\text{ppm}$ -30 to 85°C 1.8V



Outline (mm)



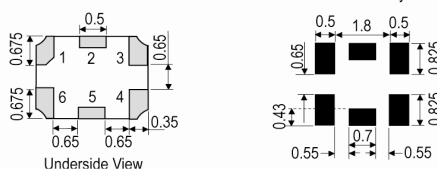
Pad Connections

- GND
- N/C
- GND
- Output
- N/C
- +VS

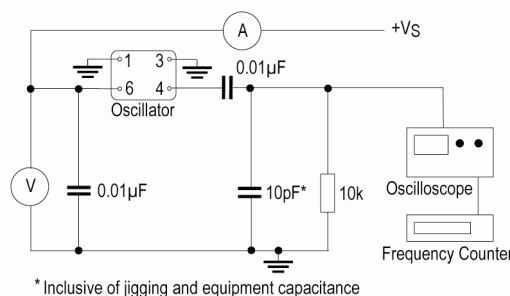
Note 1: a capacitor of $0.01\mu\text{F}$ between +VS and GND is recommended.

Note 2: a DC bias cut capacitor of $0.01\mu\text{F}$ at the output is recommended.

Solder Pad Layout



Test Circuit



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Compliance

- RoHS Status Compliant
- REACH Status Compliant
- MSL Rating (JDEC-STD-033): 1

Packaging Details

- Pack Style: Reel Tape & reel in accordance with EIA-481-D
Pack Size: 3,000
- Pack Style: Cutt In tape, cut from a reel
Pack Size: 1
- Pack Style: Bulk Loose in bulk pack
Pack Size: 100

Electrical Specification - maximum limiting values 1.8V $\pm$ 5%

Frequency Min	Temperature Range	Stability (min)	Current Draw	Rise and Fall Time	Duty Cycle
	°C	ppm	mA	ns	%
13.0MHz	-30 to 85	$\pm$ 0.50	2	-	-
16.368MHz	-30 to 85	$\pm$ 0.50	2	-	-
16.369MHz	-30 to 85	$\pm$ 0.50	2	-	-
19.2MHz	-30 to 85	$\pm$ 0.50	2	-	-
26.0MHz	-30 to 85	$\pm$ 0.50	2	-	-
27.456MHz	-30 to 85	$\pm$ 0.50	2	-	-
38.4MHz	-30 to 85	$\pm$ 0.50	2	-	-

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