

# CFPT-6100 LEADED TCXO

ISSUE 5; 1 NOVEMBER 2008 - RoHS 2002/95/EC

## Description

- Very high stability temperature compensated crystal oscillators manufactured for us by Rakon and housed in a hermetically sealed leaded package. This series can also be specified with low ageing crystal performance if required

## Package Outline

- 20.7 x 20.7mm

## Output Compatibility & Load

- HCMOS
- 15pF

## Standard Frequencies

- 4, 4.096, 4.194303, 5, 8.192, 9.89998, 10, 12, 12.288, 16, 16.384, 19.44, 24.576, 32, 40.96, 51.84MHz

## Frequency Stability

- Temperature: see table
- Supply Voltage Variation  $\pm 5\%$   $< 25\text{MHz}$   $< \pm 0.1\text{ppm}$   
 $> 25\text{MHz}$   $< \pm 0.2\text{ppm}$
- Load Coefficient 15pF  $\pm 5\text{pF}$   $< \pm 0.1\text{ppm}$

## Frequency Adjustment

- $\pm 4\text{ppm}$  External Control Voltage 0.25V to 2.5V applied to pin 4 (CFPT-6103, -6133, -6105)
- $\pm 4\text{ppm}$  External 100k $\Omega$  Potentiometer connected as a variable resistor from pin 4 to GND
- CFPT-6104, -6144, -6106 Wider frequency adjustment is available on request

## Tri-state Operation

- Logic '1' ( $> 70\%V_s$ ) or N/C to pin 5 enables output
- Logic '0' ( $< 20\%V_s$ ) to pin 5 disables output
- Tri-state not available  $> 25\text{MHz}$  (Pin 5 = No Connection)

## Storage Temperature Range

- $-55$  to  $+95^\circ\text{C}$

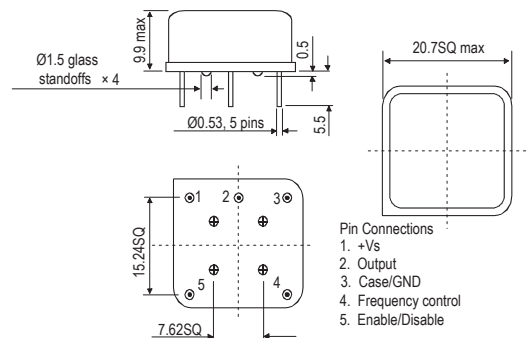
## Ageing

- $\pm 1\text{ppm}$  max in first year
- $\pm 3\text{ppm}$  max in 10 years
- Tighter ageing performance available on request

## Environmental

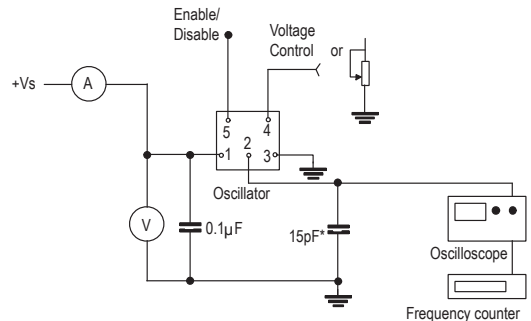
- Bump: 1000  $\pm 10$  bumps at 400m/s<sup>2</sup> in each of the three mutually perpendicular planes
- Shock: 981m/s<sup>2</sup> for 6ms duration, three shocks in each direction along the three mutually perpendicular planes
- Solderability: IEC 60068-2-20 Test Ta Method 1 (Solder Bath) (MIL-STD-202 Method 208), Temperature 235 $^\circ\text{C}$
- Vibration: 10 to 60Hz 0.75mm displacement, 60 to 500Hz 98.1m/s<sup>2</sup> acceleration, 30 minutes in each of three mutually perpendicular planes at 1 octave per minute
- Damp Heat: IEC 60068-2-3 Test Ca (Steady State), Duration 56 days, recovery time 12 hours

## Outline in mm



Please note: Pin 5 is not connected  $> 25.0\text{MHz}$

## Test Circuit



\*Inclusive of jigging and equipment capacitance

- Robustness of Termination: IEC 60068-2-21 Test Ua (Tensile)
- Sealing: IEC 60068-2-17 Test QC Method 2 (Gross Leak)

## Marking Includes

- Model Number + Frequency Stability/Operating Temperature Code + Frequency + Date Code + Offset frequency at 25 $^\circ\text{C}$  (Hz) + Static Sensitivity Symbol D (denotes pin 1)

## Packaging

- Bulk

## Minimum Order Information Required

- Frequency + Model Number + Frequency Stability vs Operating Temperature Range Code

## Electrical Specification - maximum limiting values

Frequency Range	Supply Voltage	Supply Current	Frequency Adjustment	Rise Time (tr)	Fall Time (tf)	Duty Cycle	Model Number	
1.0kHz to 52.0MHz	3.0V ±0.15V	10mA	Ext. Control Voltage	4ns	4ns	40/60%	CFPT-6103	
			Ext. 100kΩ Potentiometer				CFPT-6104	
	3.0V ±0.17V		Ext. Control Voltage				CFPT-6133	
			Ext. 100kΩ Potentiometer				CFPT-6144	
	5.0V ±0.25V	15mA	Ext. Control Voltage				CFPT-6105	
			Ext. 100kΩ Potentiometer				CFPT-6106	

## Frequency Stabilities over Operating Temperature Range

Operating Temperature Ranges	Frequency Stabilities v Operating Temperature Range			
	$\pm$ 0.3ppm	$\pm$ 0.5ppm	$\pm$ 1.0ppm	$\pm$ 1.5ppm
-20 to 70°C	Code AS	Code ES	Code FS	Code CS
-40 to 85°C	-	Code EX	Code FX	Code CX
-55 to 95°C	-	-	-	Code CA

Please note that variations to the above specifications are considered upon request; please contact our sales office

Ordering Example 23.0MHz CFPT-6105 ES  
 Frequency \_\_\_\_\_  
 Model No. \_\_\_\_\_  
 Frequency Stability vs Operating Temperature Code \_\_\_\_\_

## Output Waveform

