

# CFPT-101, -102, -103

ISSUE 4; 19 OCTOBER 2004

## Delivery Options

- Please contact our sales office for current leadtimes

## Description

- CFPT-101, -102, -103 are surface mount temperature compensated voltage controlled crystal oscillators (TCVCXOs) providing a high degree of frequency stability over a wide temperature range

## Package Outline

- 11.4 × 9.6 × 2.5mm SMD

## Output Waveform

- Clipped Sine 0.7V peak to peak minimum (10kΩ\10pF)

## Ageing

- ±1ppm typical first year @ 25°C

## Frequency Adjustment

- ±2ppm minimum internal trimmer adjustment (CFPT-101, 103)

## Frequency Stability

- Temperature: see table
- Supply Voltage Variation: ±5% ±0.3ppm max
- Load Variation: (10kΩ\10pF) ±10% ±0.2ppm max
- After Reflow: ±1ppm max

## Voltage Control

- 1.5V ±1.0V applied to pad 1 (CFPT-102, -103)

## Storage Temperature Range

- -40 to 85°C

## Solder Conditions

- For typical soldering conditions, please see the relevant pages in Applications Notes

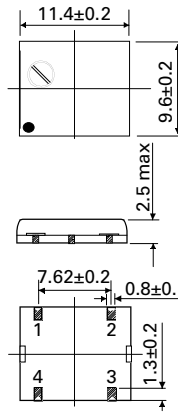
## Marking

- Model number
- Frequency Stability Code/Temperature Range Code
- Frequency
- Date Code (Year/Week)

## Minimum Order Information Required

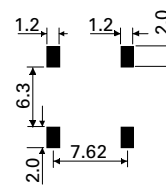
- Frequency + Model Number + Frequency Stability + Operating Temperature

## Outline in mm - CFPT-101

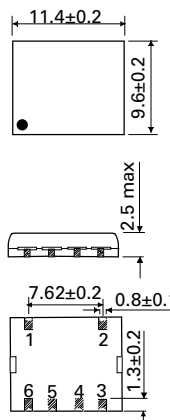


### Pad Connection

1. N/C
2. GND
3. Output
4. +Vs



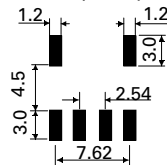
## Outline in mm - CFPT-102



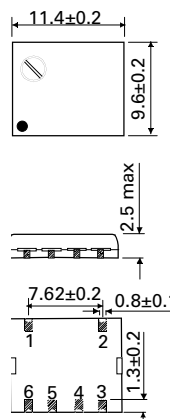
### Pad Connections

1. GND
2. GND
3. Output
4. GND
5. Voltage Control
6. +Vs

### Solder pad layout



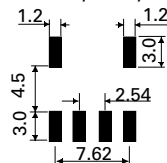
## Outline in mm - CFPT-103



### Pad Connections

1. GND
2. GND
3. Output
4. GND
5. Voltage Control
6. +Vs

### Solder pad layout



**Electrical Specifications - maximum limiting values when measured in test circuit**

Frequency Range	Frequency Tolerance @ 25°C	Supply Voltage	Supply Current	Voltage Control Change	Output Waveform	Output	Model Number
12.6 to 19.8MHz	±0.5ppm	3V±0.15V	2.0mA	—	Clipped Sine	0.7Vpk-pk min	CFPT-101
12.6 to 19.8MHz	±2.5ppm	3V±0.15V	2.0mA	±8.0ppm to ±14.0ppm max. / 1.5V±1.0V	Clipped Sine	0.7Vpk-pk min	CFPT-102
12.6 to 19.8MHz	±0.5ppm	3V±0.15V	2.0mA	±5.0ppm to ±10.0ppm max. / 1.5V±1.0V	Clipped Sine	0.7Vpk-pk min	CFPT-103

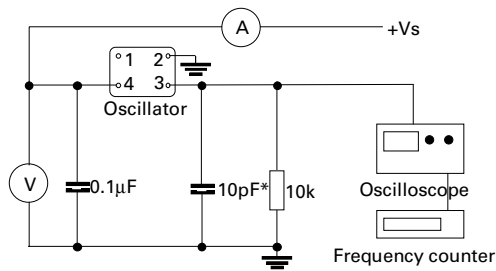
**Frequency Stabilities Available Over Operating Temperature Ranges**

Operating Temperature Ranges	Frequency Stabilities Vs Operating Temperature Range	
	±2.5ppm	±5.0ppm
-20 to 70°C	Code HS	Code KS
-25 to 75°C	Code HT	Code KT
-30 to 75°C	Code HU*	Code KU

\*Please note Code HU is the standard frequency stability vs operating temperature range

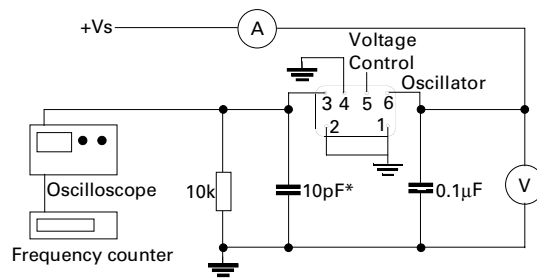
Ordering Example		
Frequency	12.60MHz	CFPT-102 HU
Model number		
Frequency Stability Vs Operating Temperature Code		

**Test Circuit - CFPT-101**



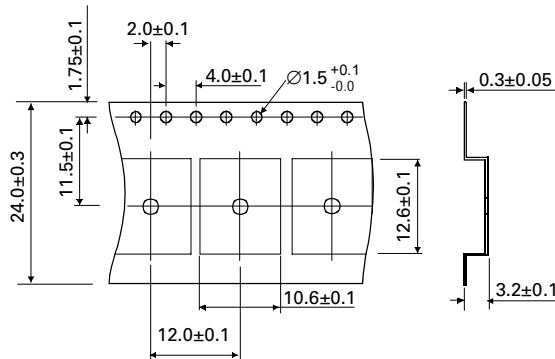
\*Inclusive of jigging & equipment capacitance

**Test Circuit - CFPT-102, -103**

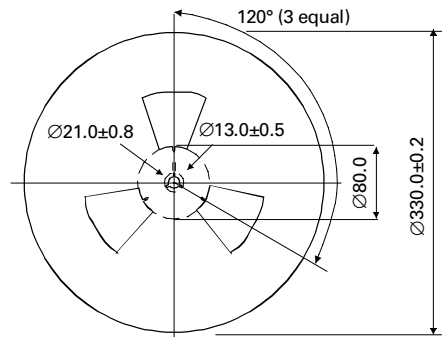


\*Inclusive of jigging & equipment capacitance

**Outline in mm - Tape**



**Outline in mm - Reel**



SURFACE MOUNT  
TCXOs