

**SMD Temperature Compensated Crystal Oscillator (PLUTO)**

A series of lead free surface mountable TCXO/TCVCXO for medium to high volume applications where small size (5 x 3.2 mm) and high performance are prerequisites.

**Product description**

The CFPT9300 uses Rakon's proprietary ASIC 'Pluto™', a single chip oscillator and analogue compensation circuit, capable of sub 0.3ppm performance over an extended temperature range. Its ability to function down to a supply voltage of 2.4V and low power consumption makes it particularly suitable for mobile applications.

**Applications**

- Communications
- Other

**Features**

- HCMOS or clipped sinewave output
- Stability  $\pm 0.2\text{ppm}$  over  $-20/70^\circ\text{C}$  or  $\pm 0.3\text{ppm}$  over  $-40/85^\circ\text{C}$

**Specifications****1.0 SPECIFICATION REFERENCES**

Line	Parameter	Description
1.1	Model description	CFPT9300
1.2	RoHS compliant	Yes
1.3	Package size	5.0 x 3.2 x 1.7 mm (see model drawing)

**2.0 FREQUENCY CHARACTERISTICS (ALL)**

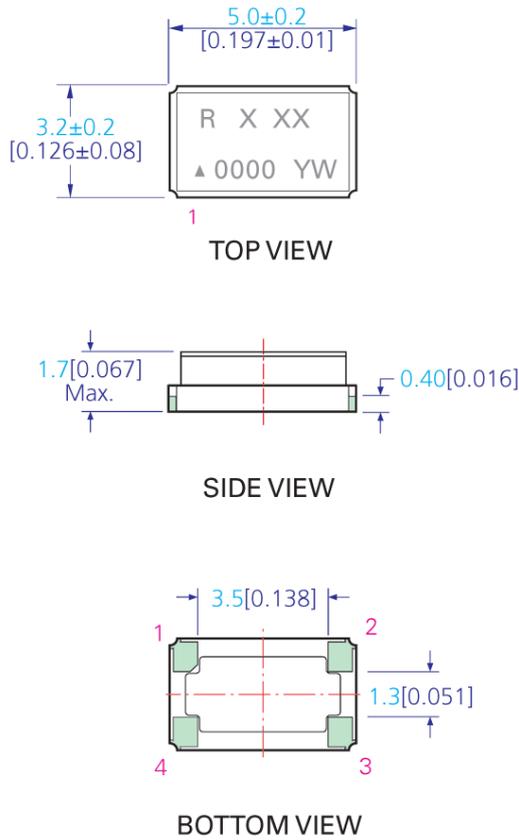
Line	Parameter	Test Condition	Value	Unit
2.1	Frequency range	Frequency range available (note 1 & 2)	1.25 to 52	MHz
2.2	Frequency calibration	Initial calibration @ 25°C	$\pm 1$ max	ppm
2.3	Frequency stability over temperature	Reference to $(F_{\text{max}} + F_{\text{min}})/2$	$\pm 0.2$ to 2	ppm
2.4	Temperature range	Operating temperature range over which temperature stability is measured	-40 to 85	°C
2.5	Reflow shift	Measured $\geq 60$ minutes after reflow	$\pm 1$ max	ppm

**3.0 FREQUENCY CHARACTERISTICS (CLIPPED SINEWAVE)**

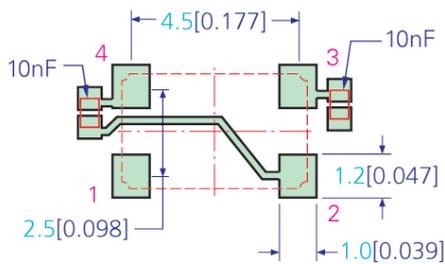
Line	Parameter	Test Condition	Value	Unit
3.1	Supply voltage stability	$\pm 5\%$ variation, reference to frequency at nominal supply voltage, typical	$\pm 0.1$	ppm
3.2	Load sensitivity	$\pm 10\%$ variation, reference to frequency at nominal load, typical	$\pm 0.05$	ppm

# Drawing Name: CFPT9300 Model Drawing

## MODEL DRAWING



## RECOMMENDED PAD LAYOUT - TOP VIEW



### NOTE:

- 1) Pin connections are detailed in the specification.
- 2) For correct operation a 10nF supply de-coupling capacitor should be placed next to the device, as shown above. If an AC coupled output is required a 10nF should be placed in series with output pad 3.

TITLE: CFPT9300 MODEL OUTLINE DRAWING

FILENAME: CFPT9300\_MD

RELATED DRAWINGS:

REVISION: B

DATE: 22-Jul-10

SCALE: 5 : 1

Millimeters [inch]

Tolerance:

XX = ±0.5

X.X = ±0.2

X.XX = ±0.10

X.XXX = ±0.05

X° = ±1.0°

Hole = ±0.10

**rakon**

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