

CFPT-9400 ULTRA HIGH FREQUENCY TCVCXO

ISSUE B; 29 APRIL 2005

Description

- CFPT-9400 is a surface mount, temperature compensated, voltage controlled crystal oscillator (TCVCXO) that use High Frequency Fundamental (HFF) crystal technology and analogue (SAW) multiplication circuitry to generate various common telecoms frequencies

Nominal Frequencies (Fn)

- E3383LF: 622.08000MHz
- E3384LF: 644.53125MHz
- E3385LF: 669.32658MHz
- E3386LF: 693.48299MHz
- E3426LF: 666.51429MHz

Supply Voltage

- 3.3V $\pm 5\%$

Input Current (@Vs = 3.3V, 0 to 85°C)

- $\leq 80\text{mA}$ (typ. 75mA)

Output

- Type: LVPECL compatible
- Symmetry 45/55%
- Rise and Fall Time $\leq 350\text{ps}$
- Skew $\leq 20\text{ps}$
- Sub-harmonics $\leq -46\text{dBc}$
- Spurious Response $\leq -65\text{dBc}$
- Jitter $\leq 60\text{ps}$ pk-pk
- Load 50Ω to Vs-2V (150Ω to GND)

Frequency Stability (all conditions, @ Vc = 1.65V)

$\leq \pm 20.0\text{ppm}$ ref. to Fn, includes:-

- Calibration Tolerance $\leq \pm 5.0\text{ppm}$
- Reflow Drift $\leq \pm 5.0\text{ppm}$
- Temperature Variation, 0 to 85°C and Supply Voltage Variation, $\pm 5\%$ $\leq \pm 10.0\text{ppm}$
- Ageing, 20 years $\leq \pm 10.0\text{ppm}$

Electrical Tuning Characteristics

- Frequency deviation: $\pm 40\text{ppm} \leq \text{Freq.Dev.} \leq \pm 60\text{ppm}$, ref. frequency @ Vc = 1.65V
- Linearity $+30\text{ppm/V} \leq K_V \leq +44\text{ppm/V}$
- Control Voltage Range $0.33\text{V} \leq V_c \leq 2.97\text{V}$
- Input Impedance $\geq 50\text{k}\Omega$ // $\leq 20\text{pF}$
- Modulation Bandwidth $\geq 100\text{kHz}$
- Slope Positive, Monotonic

Tri-state Operation

- Pad 2 logic '1' ($\geq 2.0\text{V}$) Output disabled
- Pad 2 logic '0' ($\leq 0.8\text{V}$ or Open) Output enabled
- (internal $150\text{k}\Omega$ pull down resistor)

Phase Noise

- 100Hz offset $\leq -70\text{dBc/Hz}$
- 1 kHz offset $\leq -100\text{dBc/Hz}$
- 10kHz offset $\leq -120\text{dBc/Hz}$
- $\geq 100\text{kHz}$ offset $\leq -135\text{dBc/Hz}$

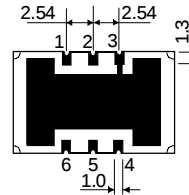
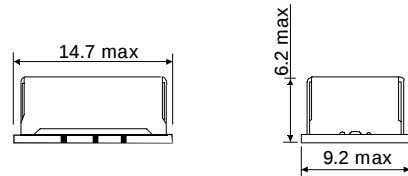
Environmental Specification

- Storage Temperature Range -55 to 125°C
- Vibration: IEC 60068-2-6 Test Fc Procedure B4, 10-60Hz, 1.5mm displacement, 60 - 2000Hz @ 98.1m/s^2 , 30 minutes in each of three mutually perpendicular axes @ 1 octave per minute
- Shock: IEC 60068-2-27 Test Ea, 980m/s^2 acceleration for 6ms duration, 3 shocks in each direction along three mutually perpendicular axes
- RoHS / Soldering: Parts with the suffix "LF" on the part number are fully compliant with European Union directive 2002/95/EC on the restriction of use of certain hazardous substances in electrical and electronic equipment.
Note: The RoHS compliant parts are suitable for assembly using both Lead-free solders and Tin/Lead solders
- Solderability: MIL-STD-202, Method 208, Category 3

Marking shall include as a minimum:-

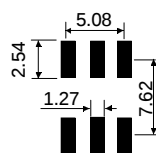
- Model Number
- Frequency
- Date Code
- Antistatic Symbol (Δ denotes pad 1)

Outline in mm



- Pad Connections
- 1 Voltage Control
 - 2 Enable/Disable
 - 3 GND
 - 4 Output
 - 5 Complementary Output
 - 6 +Vs

Solder pad layout



SURFACE MOUNT
TCXO'S