CFPT-6103, -6104, -6105, -6106, -6133, -6144

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Delivery Options

- Please contact our sales office for current leadtimes

Description

- The CFPT-6100 series of very high stability temperature compensated crystal oscillators are housed in a 20.7mm square leaded package. Operating from standard 5V or 3V supplies and available in the frequency range 1.0kHz to 52.0MHz, the CFPT 6100 series can also be specified with low ageing performance if required.

Waveform

- Square HCMOS

Package Outline

- Resistance welded enclosure

Standard Frequencies

- 4.0MHz, 4.0960MHz, 4.194303MHz, 5.0MHz, 8.1920MHz, 9.899980MHz, 10.0MHz, 12.0MHz, 12.2880MHz, 16.0MHz, 16.3840MHz, 19.440MHz, 24.5760MHz, 32.0MHz, 40.960MHz, 51.840MHz

Ageing

- ±1ppm max. in first year
- ±3ppm max. in 10 years
- Tighter ageing performance available on request

Frequency Stability

- Temperature: see table
- Supply Voltage Variation ±5% ≤ 25MHz ≤ ±0.1ppm
  >25MHz ≤ ±0.2ppm
- Load Coefficient 15pF ±5pF ≤ ±0.1ppm

Frequency Adjustment

- ≥ ±4ppm External Control Voltage 0.25V to 2.5V applied to pin 4 (CFPT-6103, -6133, -6105)
- ≥ ±4ppm External 100kΩ Potentiometer connected as a variable resistor from pin 4 to ground (CFPT-6104, -6144, -6106)
- Wider frequency adjustment is available on request

Tri-state

- Pin 5 open circuit or > 0.7Vs enable
- < 0.2Vs tri-state
- Tri-state not available >25MHz
  (Pin 5 = No Connection)

Storage Temperature Range

- –55 to +95°C

Environmental Specification

- Bump: 1000 ±10 bumps at 400m/s^2 in each of the three mutually perpendicular planes
- Shock: 981m/s^2 for 6ms duration, three shocks in each direction along the three mutually perpendicular planes
- Solderability: IEC 68-2-20 Test Ta Method1 (Solder Bath) (MIL-STD-202 Method 208), Temperature 235°C
- Vibration: 10 to 60Hz 0.75mm displacement, 60 to 500Hz 98.1m/s^2 acceleration, 30 minutes in each of three mutually perpendicular planes at 1 octave per minute
- Damp Heat: IEC 68-2-3 Test Ca (Steady State), Duration 56 days, recovery time 12 hours.
- Robustness of Termination: IEC 68-2-21 Test Ua (Tensile)
- Sealing: IEC 68-2-17 Test Qc Method 2 (Gross Leak)
- Marking: Heat cured epoxy or engraving, resistant to all common solvents

Marking Includes

- Model number
- Frequency Stability Code /Temperature Range Code
- Frequency
- Date code (Year/Week)
- Offset frequency at 25°C (Hz)
- Static Sensitivity Symbol Δ (denotes pin 1)

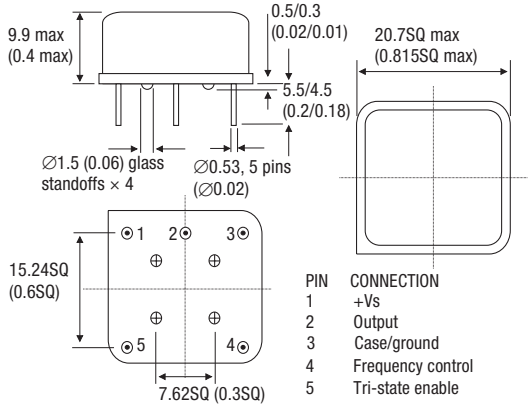
Minimum Order Information Required

- Discrete Part Number

OR

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

Outline in mm (inches)



Please note: Pin 5 is not connected >25.0MHz

Electrical Specification - maximum limiting values when measured in test circuit

Frequency Range	Supply Voltage	Supply Current	Output	Frequency Adjustment	Rise Time (t_r)	Fall Time (t_f)	Duty Cycle	Model Number
1.0kHz to 52.0MHz	3V±0.15	10mA	HCMOS 15pF	Ext. Control Voltage	4ns	4ns	40/60%	CFPT-6103
1.0kHz to 52.0MHz	3V±0.15	10mA	HCMOS 15pF	Ext. 100kΩ Potentiometer	4ns	4ns	40/60%	CFPT-6104
1.0kHz to 52.0MHz	3.3V±0.17	10mA	HCMOS 15pF	Ext. Control Voltage	4ns	4ns	40/60%	CFPT-6133
1.0kHz to 52.0MHz	3.3V±0.17	10mA	HCMOS 15pF	Ext. 100kΩ Potentiometer	4ns	4ns	40/60%	CFPT-6144
1.0kHz to 52.0MHz	5V±0.25	15mA	HCMOS 15pF	Ext. Control Voltage	4ns	4ns	40/60%	CFPT-6105
1.0kHz to 52.0MHz	5V±0.25	15mA	HCMOS 15pF	Ext. 100kΩ Potentiometer	4ns	4ns	40/60%	CFPT-6106

Frequency Stabilities over Operating Temperature Ranges

Operating Temperature Ranges	Frequency Stabilities Vs Operating Temmperature Range			
	±0.3ppm	±0.5ppm	±1.0ppm	±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

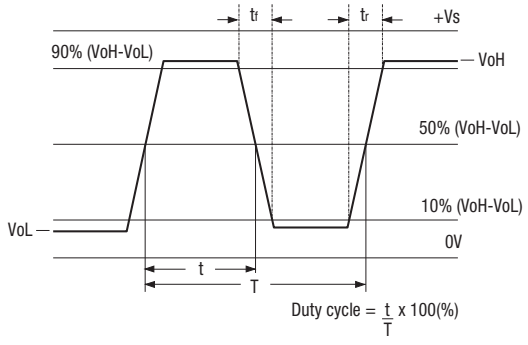
Please note that variations to the above specifications are considered upon request; please contact our sales office.

Ordering Example 23.0MHz CFPT-6105 ES

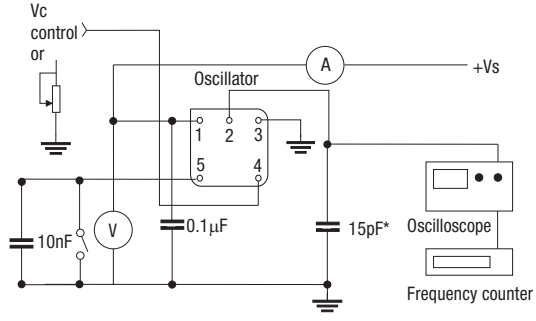
Frequency
Model Number
Frequency Stability Vs Operating Temperature Code

Please note: Minimum Order Quantity = 100 pieces

Output Waveform - HCMOS



Test Circuit - HCMOS



*Inclusive of jigging & equipment capacitance

Please note: Pin 5 is not connected >25.0MHz

TCXOs