

CFPV-7 SMD VCXO

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Description

- Voltage Controlled Crystal Oscillator (VCXO) with a crystal packed into its own holder
- Grounded crystal enclosure acts like a shield and provides low EMI
- Non PLL based design ensures low jitter
- 3.3V or 5V supply voltage
- CMOS, PECL, SINE or LVDS Output
- **RoHS Compliance**
- Parts with the suffix 'LF' on the part number are fully compliant with the European Union Directive 2002/95/EC on the restriction of the 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.

Package Outline

- 4-pad (style 578) or 6-pad (style 579) industry standard, glass epoxy laminate (FR4) base
- End-termination finish: gold (<0.1mm) on nickel (3-5mm) and high temperature plastic cover

Frequency Range

- 2 to 170MHz

Developed Frequencies

- 8.192, 20.0, 24.576, 32.768, 34.368, 38.88, 39.3216, 44.736, 50.0, 51.84, 52.0, 61.44, 63.8976, 77.76, 80.0, 82.3341, 140.0, 155.52MHz

CMOS Output (option)

- Load: 15pF nom.
- Duty Cycle @ 50%: 40/60%
- Rise & Fall Time (20 to 80%): < 2ns typ.
- VoH: >90% Vs
- VoL: <10% Vs

Tri-state control (6 pad package only)

- Control Input Logic '0' (< 30% Vs) will put the output in the tri-state mode
- Control Input Logic '1' (> 70% Vs) or left unconnected will enable the output
- 'Active High' is standard but a version with 'Active Low' can be supplied on request

Single Ended or Differential PECL Output (option)

- Load: 50Ω to Vs-2V
- Duty Cycle @ 50%: 40/60%
- Rise & Fall Time (20%-80%): < 0.5ns typ.
- VoH: 2.4V typ. @Vs=3.3V
- VoL: 1.5V typ. @Vs=3.3V

Tri-state control

The output is enabled if tri-state control is:

- a) Left open circuit

- b) Connected to GND

- c) Connected to a voltage <(Vs-1.65V) = PECL logic low

The output is disabled if tri-state control is:

- a) Connected to Vs

- b) Connected to a voltage >(Vs-0.96V) = PECL logic high

When disabled, pad 5 goes low and pad 4 goes high. The tri-state control pad has an internal 75kΩ pull down to GND resistor

Sine Output (option)

- Load: 50Ω
- Level: can be specified up to +8dBm
- Harmonics: < -20dBc

LVDS Output (option)

- Load: 100Ω differential +10pF each output to GND
- Diff. output voltage: ±250mV min. ±400mV max.
- Duty Cycle @ 50%: 40/60%
- Rise & Fall Time (20 to 80%): <0.5ns typ.

Tri-state control (6 pad package only)

- Control Input Logic '0' (0.8V) will put the output in tri-state mode
- Control Logic '1' (>2.0V) will enable the output

Frequency Stability

- All causes stability (including calibration, temperature, supply, load, reflow and ageing) can be specified down to ±30ppm, 0 to 70°C or ±50ppm, -40 to 85°C. Please specify operating condition; Temperature Range, Lifetime, etc.

Frequency Pulling

- >±60ppm standard, other values on request
- Positive Transfer Function
- Modulation Bandwidth > 10kHz
- Input Impedance ≥100kΩ
- Linearity (MIL-PRF-55310) ≤±10%

Supply Voltage

- Ranging from typ. 10mA @ 2MHz/3.3V CMOS to typ. 80mA @ 170MHz/5V PECL, at nominal load. Contact sales office for specific values

Supply Current

- 3.3V ±5% (option)
- 5.0V ±5% (option) Control Voltage Range
- 1.65V ±1.35V (Vs = 3.3V)
- 2.5V ±2.0V (Vs = 5.0V)

Phase Jitter (rms, typ. @ 155.52 MHz)

- 12kHz to 5MHz 0.18ps
- 12kHz to 20MHz 0.36ps
- 12kHz to 80MHz 0.72ps

Phase Noise (typ. @ 155.52MHz)

- 100Hz -75dBc/Hz
- 1kHz -105dBc/Hz
- 10kHz -130dBc/Hz
- >100Hz -145dBc/Hz

Environmental Specification

- Storage: -40 to 100°C
- Vibration: IEC 60068-2-6 Test Fc Procedure B4, 10 - 60Hz 0.75mm displacement, 60 - 500Hz, 98.1m/s² (10gn) acceleration, 30 minutes in each of three mutually perpendicular planes at 1 octave per minute
- Shock: IEC 60068-2-27 Test Ea, 981m/s² (100gn) acceleration for 6ms duration, 3 shocks in each direction along three mutually perpendicular axes

Soldering

- SMD product, suitable for Pb-free convection reflow soldering. Compliant with JDEC standard J-STD-020, Level 1
- Sealing: Non hermetic package
- Marking: Label resistant to all common solvents

Marking Includes

- IQD + Model Number + Frequency

Packaging

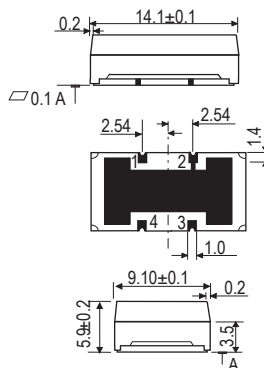
- Bulk or Tape & Reel

Minimum Order Information Required

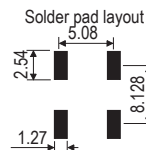
- Frequency + Supply Voltage + Output Type + All Causes Stability + Temperature Range + Lifetime
- Package Style
- RoHS compliance

Outline (mm) - 4 pad Style 578

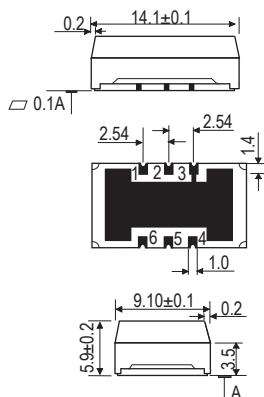
Tri-state / Enable Control and Differential Output are not available in this package.



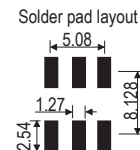
- Pad Connections
1. Voltage Control
 2. GND
 3. Output
 4. +Vs



Outline (mm) - 6 pad Style 579



- Pad Connections
1. Voltage Control
 2. Enable/Tri-state control
 3. GND
 4. Output 1
 5. Output 2
 6. +Vs



VXCOs