CFPS-7 SMD CLOCK OSCILLATORS

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Description

- Clock oscillator with crystal packed into its own holder
- Grounded crystal enclosure acts like a shield and provides low EMI
- Non PLL based design ensures good phase noise/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 Europena 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

- 2.0 to 170.0MHz

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, 155.52 MHz

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

- 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

Supply Voltage Options

- 3.3V ±5%
- 5.0V ±5%

Supply Current

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

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 the tri-state control is:

a) Connected to Vs

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

Sine Output (option) (10MHz min)

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

LVDS Output (Option. 6 pad package only)

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

Tri-state Control

- Control Input Logic '0' (<0.8V) will put the output in tri-state mode
- Control Input 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 ±20ppm, 0 to 70°C or ±35ppm, –40 to 85°C.
  Please specify operating condition; Temperature Range, Lifetime, etc.

Jitter (typ. rms values @ 155.52MHz)

- 12kHz to 5MHz 0.59ps
- 12kHz to 20MHz 0.97ps
- 12kHz to 80MHz 1.85ps

Phase Noise (typ. values @ 155.52MHz)

- 100Hz –90dBc
- 1kHz –115dBc
- 10kHz –134dBc
- >100Hz –135dBc

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Environmental Specification

- Storage: –40 to 100°C
- Vibration: IEC 60068-2-6 Test Fc Procedure B4, 10-60Hz 0.75mm displacement, 60-500Hz at 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

- 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

- Model Number + Frequency

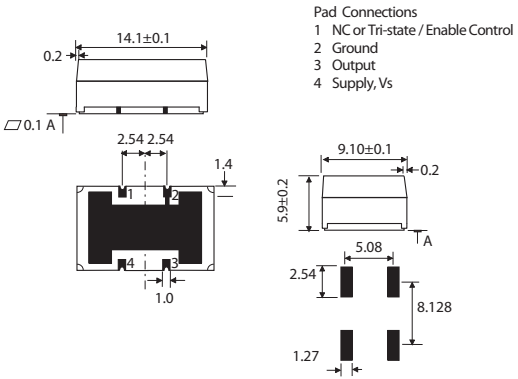
Packaging

- Bulk or Tape and Reel

Minimum Order Information Required

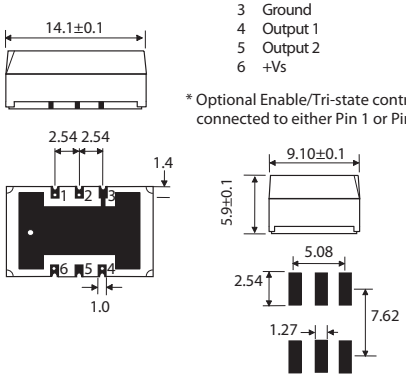
- Frequency + Supply Voltage + Output Type + All Causes Stability + Temperature Range + Lifetime
- Package Style
- RoHS compliance

Outline mm - 4 pad



Pad Connections
1 NC or Tri-state / Enable Control
2 Ground
3 Output
4 Supply, Vs

Outline in m - 6 pad



Pad Connections
1 NC*
2 NC*
3 Ground
4 Output 1
5 Output 2
6 +Vs

* Optional Enable/Tri-state control can be connected to either Pin 1 or Pin 2

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