CFPS-31, -32, -72, -73 SMD CLOCK OSCILLATORS

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Description

- Standard 7 x 5 crystal oscillators
- Ceramic package with a seam sealed metal lid, hermetically sealed
- Stock parts listed at the beginning of this chapter
- Fast Make capability: CFPP-72 and CFPP-73 series programmable oscillators are the nearest equivalent fast make model
- MEMS capability: IQMS-500 series oscillators are the nearest equivalent MEMS model

Frequency Range

- 0.5 to 156MHz (CFPS-31, CFPS-32, CFPS-73)
- 0.5 to 100MHz (CFPS-72)

Output Compatibility & Load

- CMOS 15pF max (CFPS-31, CFPS-32)
- HCMOS/TTL (CFPS-72), HCMOS (CFPS-73)

Maximum Drive Capability	
1.5MHz to 50MHz	50pF max
>50MHz to 80MHz	30pF max
>80MHz to 160MHz	15pF max

Frequency Stabilities

- ±20ppm, ±25ppm, ±50ppm, ±100ppm (inclusive of supply voltage and output load variations over the operating temperature range)

Operating Temperature Ranges

- 0 to 70°C (CFPS-72, -73 only)
- –10 to 70°C (CFPS-31, -32 only)
- –40 to 85°C

Storage Temperature Range

- –55 to 125°C

Standby Operation

- Logic '1' (>70% V_S) to pad 1 enables oscillator output
- Logic '0' (<30% V_S) to pad 1 disables oscillator output; the oscillator output goes to the high impedance state
- No connection to pad 1 enables oscillator output
- Standby Current: 10µA max

Environmental

- Shock: MIL-STD-202, Method 213, Condition E
- Vibration: MIL-STD-883, Method 2007, Condition A

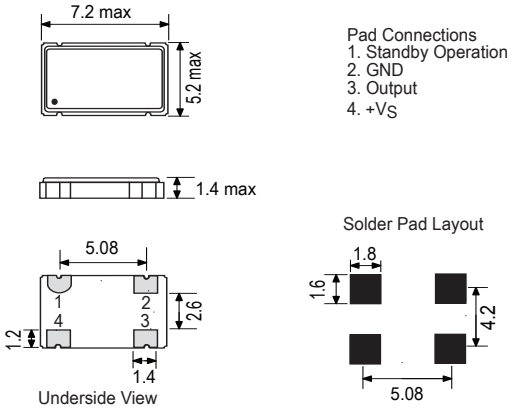
Packaging

- Loose in bulk pack, 100pcs per pack
- Tape and reel in accordance with EIA-481-D, 1kpcs per reel (please see pages 372 & 373)

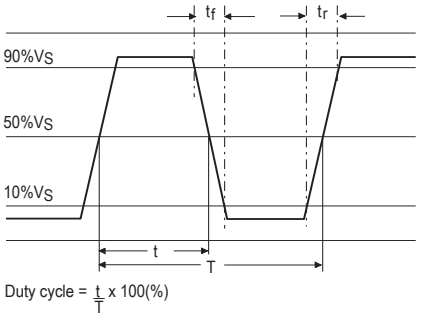
Ordering Information (*minimum required)

- Frequency*
- Model*
- Output
- Frequency Stability*
- Operating Temperature Range*
- Supply Voltage

Outline (mm)

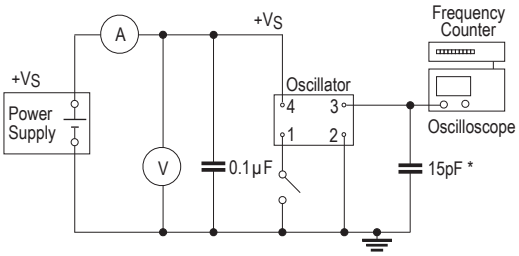


Output Waveform



Duty cycle = $\frac{t}{T}$ x 100(%)

Test Circuit



* Inclusive of jigging and equipment capacitance

Example

- 10.0MHz CFPS-73
  HCMOS ±50ppm 0 to 70C 3.3V

Electrical Specifications - maximum limiting values CFPS-31 (1.8V)

Frequency Range	Frequency Stability	Supply Voltage	Supply Current	Rise Time (t_r) (10-90%)	Fall Time (t_f) (90-10%)	Duty Cycle	Model Number
0.5 to <10.0MHz	±25ppm ±50ppm ±100ppm	1.8V ±5%	5mA	5ns	5ns	40/60%	CFPS-31
10.0 to <20.0MHz			6mA				
20.0 to <32.0MHz							
32.0 to <50.0MHz			15mA				
50.0 to <80.0MHz				4ns	4ns		
80.0 to <100.0MHz			20mA	3ns	3ns		
100.0 to 156.0MHz			25mA				
Please note that the rise and fall times listed are the maximum values we specify to cover various frequency breaks. In practice the actual values are generally lower depending upon the spot frequency chosen. For typical values please contact our sales offices							
Note: For other frequency/specification combinations, please contact our sales offices							

Electrical Specifications - maximum limiting values CFPS-32 (2.5V)

Frequency Range	Frequency Stability	Supply Voltage	Supply Current	Rise Time (t_r) (10-90%)	Fall Time (t_f) (90-10%)	Duty Cycle	Model Number
0.5 to <10.0MHz	±25ppm ±50ppm ±100ppm	2.5V ±5%	6mA	5ns	5ns	40/60%	CFPS-32
10.0 to <20.0MHz			8mA				
20.0 to <32.0MHz							
32.0 to <50.0MHz			20mA				
50.0 to <80.0MHz				4ns	4ns		
80.0 to <100.0MHz			25mA	3ns	3ns		
100.0 to 156.0MHz			30mA				
Please note that the rise and fall times listed are the maximum values we specify to cover various frequency breaks. In practice the actual values are generally lower depending upon the spot frequency chosen. For typical values please contact our sales offices							
Note: For other frequency/specification combinations, please contact our sales offices							

Electrical Specifications - maximum limiting values CFPS-73 (3.3V)

Frequency Range	Frequency Stability	Supply Voltage	Supply Current	Rise Time (t_r) (10-90%)	Fall Time (t_f) (90-10%)	Duty Cycle	Model Number
0.5 to <10.0MHz	±20ppm* ±25ppm ±50ppm ±100ppm	3.3V ±10%	7mA	10ns	10ns	45/55%	CFPS-73
10.0 to <20.0MHz							
20.0 to <32.0MHz			12mA				
32.0 to <50.0MHz			20mA				
50.0 to <80.0MHz			25mA	8ns	8ns		
80.0 to <100.0MHz			30mA	5ns	5ns		
100.0 to 156.0MHz			40mA	4ns	4ns		
* Note: ±20ppm over –40 to 85°C is not avavilable							
Please note that the rise and fall times listed are the maximum values we specify to cover various frequency breaks. In practice the actual values are generally lower depending upon the spot frequency chosen. For typical values please contact our sales offices							
Note: For other frequency/specification combinations, please contact our sales offices							

Electrical Specifications - maximum limiting values CFPS-72 (5.0V)

Frequency Range	Frequency Stability	Supply Voltage	Supply Current	Rise Time (t_r) (10-90%)	Fall Time (t_f) (90-10%)	Duty Cycle	Model Number
0.5 to 20.0MHz	±25ppm ±50ppm ±100ppm	5.0V ±10%	20mA	10ns	10ns	45/55%	CFPS-72
20.0 to 35.0MHz			30mA	6ns	6ns		
35.0 to 70.0MHz			50mA				
70.0 to 100.0MHz			70mA				
Please note that the rise and fall times listed are the maximum values we specify to cover various frequency breaks. In practice the actual values are generally lower depending upon the spot frequency chosen. For typical values please contact our sales offices							
Note: For other frequency/specification combinations, please contact our sales offices							