



# 5.0V/3.3V PLASTIC HCMOS SMD CLOCK OSCILLATOR MODEL: FSO SERIES

## FEATURES

- 5.0V / 3.3V Operation
- HCMOS/TTL Output
- Tri-State Enable/Disable
- Extended Temperature Range
- Tape and Reel (1,000 pcs. STD)



PART NUMBER SELECTION <a href="#">Learn More</a> - Internet Required					
Part Number	Model Number	V <sub>DD</sub> (V)	Frequency Stability <sup>1</sup>	Operating Temperature (°C)	Frequency Range (MHz)
259-Frequency-xxxxx	FSO-2 <sup>3</sup>	5.0 ± 0.5	±100PPM	-20 ~ +70	1.000 ~ 66.6667
547-Frequency-xxxxx	FSO-2R		±100PPM	-40 ~ +85	1.000 ~ 66.6667
432-Frequency-xxxxx	FSO-2S	3.3 ± 0.3	±50PPM	-20 ~ +70	1.000 ~ 66.6667
433-Frequency-xxxxx	FSO-3 <sup>3</sup>		±100PPM	-20 ~ +70	1.000 ~ 66.6667
543-Frequency-xxxxx	FSO-3R		±100PPM	-40 ~ +85	1.000 ~ 66.6667
434-Frequency-xxxxx	FSO-3S		±50PPM	-20 ~ +70	1.000 ~ 66.6667

ELECTRICAL CHARACTERISTICS		
PARAMETERS	FSO-2 Series	FSO-3 Series
	MAX (unless otherwise noted)	
Frequency Range (F <sub>o</sub> )	1.000 ~ 66.6667 MHz	
Input Current (I <sub>DD</sub> )		
1.000 ~ 30.000 MHz	23mA	9mA
30.000+ ~ 66.6667 MHz	35mA	20mA
Output Symmetry (50% V <sub>DD</sub> )	40% ~ 60%	
Rise Time (20% ~ 80% V <sub>DD</sub> ) (T <sub>R</sub> )		
1.000 ~ 30.000 MHz	8nS	6nS
30.000+ ~ 66.6667 MHz	7nS	6nS
Fall Time (80% ~ 20% V <sub>DD</sub> ) (T <sub>F</sub> )		
1.000 ~ 30.000 MHz	8nS	6nS
30.000+ ~ 66.6667 MHz	7nS	6nS
Output Voltage (V <sub>OL</sub> )	0.4V	
(V <sub>OH</sub> )	4.6V Min	2.9V Min
Output Current (I <sub>OL</sub> )	16mA Min	
(I <sub>OH</sub> )	-16mA Min	-4mA Min
Output Load (TTL)	10TTL	---
(HCMOS)	50pF	30pF
Start-up Time (T <sub>s</sub> )		
1.000 ~ 30.000 MHz	4mS	
30.000+ ~ 66.6667 MHz	10mS	
Enable/Disable Time <sup>2</sup>	100nS	

<sup>1</sup> Inclusive of 25°C tolerance, operating temperature range, input voltage change, aging, and load change.

<sup>2</sup> An internal pullup resistor from pin 1 to pin 4 allows active output if pin 1 is left open.

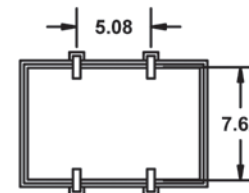
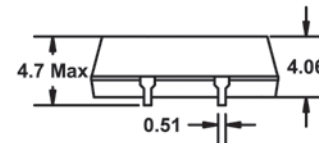
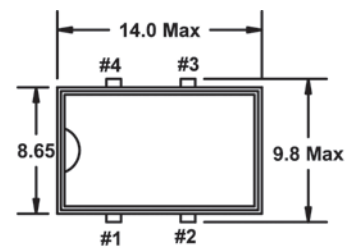
<sup>3</sup> The FSO-2 and FSO-3 models will also operate over -40°C ~ +85°C, but with a stability of ±200 PPM.

Note: A 0.01µF bypass capacitor should be placed between V<sub>DD</sub> (Pin 4) and GND (Pin 2) to minimize power supply line noise.

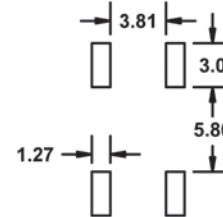
All specifications subject to change without notice. Rev. 6/1/04

Learn more about:  
[Part Marking Identification](#)  
[Tape and Reel Specification](#)  
[Mechanical Specification](#)

Internet required



### Recommended Solder Pad Layout



### Pin Connections

- #1 E/D      #3 Output  
 #2 GND    #4 V<sub>DD</sub>

All dimensions are in millimeters.

ENABLE / DISABLE FUNCTION	
INH (Pin 1)	OUTPUT (Pin 3)
OPEN <sup>2</sup>	ACTIVE
'1' Level V <sub>IH</sub> ≥ 2.4 V	ACTIVE
'0' Level V <sub>IL</sub> ≤ 0.6 V	High Z