3.3V HCMOS SMD OSCILLATOR WITH STANDBY

F4100 SERIES

FEATURES

- 3.3V Operation
- HCMOS Output
- Standby Function
- Tape and Reel (2,000 pcs. STD)
- Pb Free

OPTIONS

- 1.05mm Height Max

• MODEL NUMBER SELECTION

Model Number	Frequency Stability[1]	Operating Temperature (ºC)	Frequency Range (MHz)
F4100	±100PPM	-10 ~ +70	0.012 ~ 170.000
F4100R	±100PPM	-40 ~ +85	0.012 ~ 170.000
F4105	±50PPM	-10 ~ +70	0.012 ~ 170.000
F4105R	±50PPM	-40 ~ +85	0.012 ~ 170.000
F4106	±25PPM	-10 ~ +70	0.012 ~ 132.000
F4106R	±25PPM	-40 ~ +85	0.012 ~ 100.000
F4108	±20PPM	-10 ~ +70	0.012 ~ 132.000

• ELECTRICAL CHARACTERISTICS

PARAMETERS	**MAX** (unless otherwise noted)
Frequency Range (Fo)	0.012 ~ 170.000 MHz
Storage Temperature Range (Tstg)	-55ºC ~ +125ºC
Supply Voltage (VDD)	3.3V ± 10%
Input Current (IDD)	
0.012 ~ 0.040 MHz	3mA
0.040+ ~ 1.500 MHz	6mA
1.500+ ~ 32.000 MHz	15mA
32.000+ ~ 50.000 MHz	20mA
50.000+ ~ 67.000 MHz	25mA
67.000+ ~ 170.000 MHz	40mA
Output Symmetry (50% VDD)	
0.012 ~ 50.000 MHz	45% ~ 55%
50.000+ ~ 170.000 MHz	40% ~ 60%
Rise Time (10% ~ 90% VDD) (TR)	
0.012 ~ 80.000 MHz	6nS
80.000+ ~ 125.000 MHz	4nS
125.000+ ~ 170.000 MHz	3nS
Fall Time (90% ~ 10% VDD) (TF)	
0.012 ~ 80.000 MHz	6nS
80.000+ ~ 125.000 MHz	4nS
125.000+ ~ 170.000 MHz	3nS
Output Voltage (VOL)	10% VDD
(VOH)	90% VDD Min
Output Current (IOL)	2mA Min
(IOH)	-2mA Min
Output Load (HCMOS)	15pF
Standby Current (VIL ≤ 0.99V)	10µA
Start-up Time (TS)	
0.012 ~ 32.000 MHz	5mS
32.000+ ~ 170.000 MHz	10mS
Output Disable Time [2]	150nS
Output Enable Time [2]	
0.012 ~ 32.000 MHz	5mS
32.000+ ~ 170.000 MHz	10mS

[1] Inclusive of 25ºC tolerance, operating temperature range, input voltage change, load change, aging, shock, and vibration.

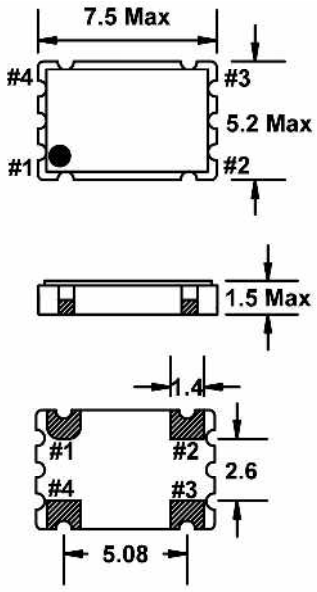
[2] An internal pullup resistor from pin 1 to pin 4 allows active output if pin 1 is left open.

See page 30 for mechanical specifications, test circuits, and output waveform.

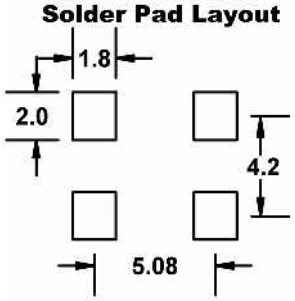
Note: A 0.01µF bypass capacitor should be placed between VDD (Pin 4) and GND (Pin 2) to minimize power supply line noise.

All specifications subject to change without notice. *Rev. 07/8/03*

See page 60 for tape and reel specifications.



Recommended Solder Pad Layout



Pin Connections

#1 E/D #3 Output
#2 GND #4 V DD

All dimensions are in millimeters.

• ENABLE / DISABLE FUNCTION

$\overline{\text{INH}}$ (Pin 1)	OUTPUT (Pin 3)
OPEN [2]	ACTIVE
'1' Level VIH ≥ 70% VDD	ACTIVE
'0' Level VIL ≤ 30% VDD	High Z

3.3V TIGHT STABILITY HCMOS SMD OSCILLATOR WITH STANDBY

F4100 SERIES

FEATURES

- Tight Stability
- 3.3V Operation
- HCMOS Output
- Standby Function
- Tape and Reel (2,000 pcs. STD)
- Pb Free

• MODEL NUMBER SELECTION

Model Number	Frequency Stability[1]	Operating Temperature (°C)	Frequency Range (MHz)
F4108R	±20PPM	-40 ~ +85	1.800 ~ 50.000
F4107	±15PPM	-10 ~ +70	1.800 ~ 50.000
F4107R	±15PPM	-40 ~ +85	1.800 ~ 50.000
F4109	±10PPM	-10 ~ +70	1.800 ~ 50.000

• ELECTRICAL CHARACTERISTICS

PARAMETERS	MAX (unless otherwise noted)
Frequency Range (FO)	1.800 ~ 50.000 MHz
Storage Temperature Range (TSTG)	-55ºC ~ +125ºC
Supply Voltage (VDD)	3.3V ± 5%
Input Current (IDD)	22 mA
Output Symmetry (50% VDD)	45% ~ 55%
Rise Time (10% ~ 90% VDD) (TR)	5nS
Fall Time (90% ~ 10% VDD) (TF)	5nS
Output Voltage (VOL) (VOH)	10% VDD 90% VDD Min
Output Current (IOL) (IOH)	8mA Min 4mA Min
Output Load (HCMOS)	15pF
Standby Current	50µA
Start-up Time (TS)	5mS
Output Disable Time [2]	150nS
Output Enable Time [2]	5mS

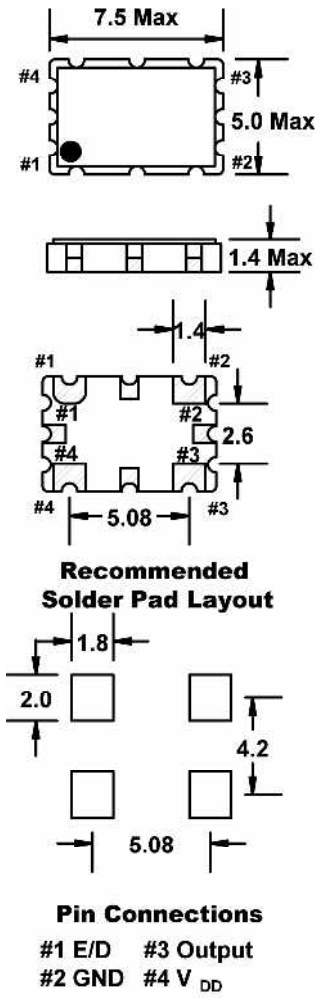
[1] Inclusive of 25ºC tolerance, operating temperature range, input voltage change, load change, aging, shock, and vibration.

[2] An internal pullup resistor from pin 1 to pin 4 allows active output if pin 1 is left open.

See page 30 for mechanical specifications, test circuits, and output waveform.

Note: A 0.01µF bypass capacitor should be placed between VDD (Pin 4) and GND (Pin 2) to minimize power supply line noise.

All specifications subject to change without notice. *Rev. 02/10/03*



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See page 60 for tape and reel specifications.