

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 (°C)	Frequency Range (MHz)
F4100	±100PPM	-10 ~ +70	1.000 ~ 170.000
F4100R	±100PPM	-40 ~ +85	1.000 ~ 170.000
F4105	±50PPM	-10 ~ +70	1.000 ~ 170.000
F4105R	±50PPM	-40 ~ +85	1.000 ~ 170.000
F4106	±25PPM	-10 ~ +70	1.000 ~ 125.000
F4106R	±25PPM	-40 ~ +85	1.000 ~ 100.000
F4108	±20PPM	-10 ~ +70	1.000 ~ 80.000

• ELECTRICAL CHARACTERISTICS

PARAMETERS	MAX (unless otherwise noted)
Frequency Range (Fo)	1.000 ~ 170.000 MHz
Storage Temperature Range (T _{STG})	-55°C ~ +125°C
Supply Voltage (V _{DD})	3.3V ± 10%
Input Current (I _{DD})	
1.000 ~ 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% V _{DD})	
1.000 ~ 50.000 MHz	45% ~ 55%
50.000+ ~ 170.000 MHz	40% ~ 60%
Rise Time (10% ~ 90% V _{DD}) (T _R)	6nS
Fall Time (90% ~ 10% V _{DD}) (T _F)	6nS
Output Voltage (V _{OL})	10% V _{DD}
(V _{OH})	90% V _{DD} Min
Output Current (I _{OL})	2mA Min
(I _{OH})	-2mA Min
Output Load (HCMOS)	15pF
Standby Current (V _{IL} ≤ 0.99V)	10μA
Start-up Time (T _S)	10mS
Output Disable Time ²	150nS
Output Enable Time ²	10mS

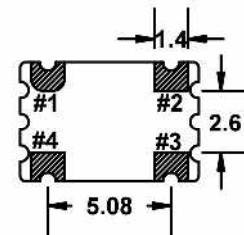
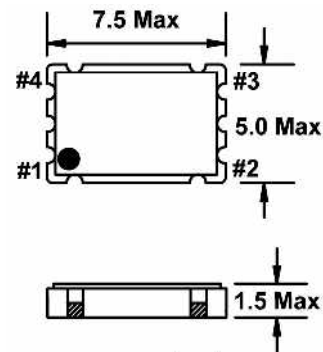
¹ Inclusive of 25°C tolerance, operating temperature range, input voltage change, load change, aging, shock, and vibration.

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

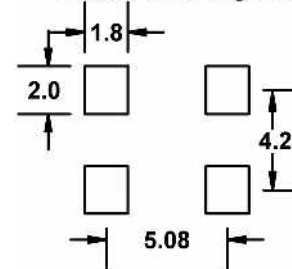
See page 30 for mechanical specifications, test circuits, and output waveform.

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

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



Recommended Solder Pad Layout



Pin Connections

#1 E/D #3 Output
#2 GND #4 V_{DD}

All dimensions are in millimeters.

• ENABLE / DISABLE FUNCTION

INH (Pin 1)	OUTPUT (Pin 3)
OPEN ²	ACTIVE
'1' Level V _{IH} ≥ 70% V _{DD}	ACTIVE
'0' Level V _{IL} ≤ 30% V _{DD}	High Z

See page 60 for tape and reel specifications.

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 (T _{STG})	-55°C ~ +125°C
Supply Voltage (V _{DD})	3.3V ± 5%
Input Current (I _{DD})	22 mA
Output Symmetry (50% V _{DD})	45% ~ 55%
Rise Time (10% ~ 90% V _{DD}) (T _R)	5nS
Fall Time (90% ~ 10% V _{DD}) (T _F)	5nS
Output Voltage (V _{OL})	10% V _{DD}
(V _{OH})	90% V _{DD} Min
Output Current (I _{OL})	8mA Min
(I _{OH})	4mA Min
Output Load (HCMOS)	15pF
Standby Current	50μA
Start-up Time (T _s)	5mS
Output Disable Time ²	150nS
Output Enable Time ²	5mS

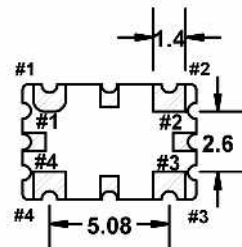
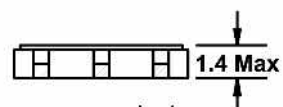
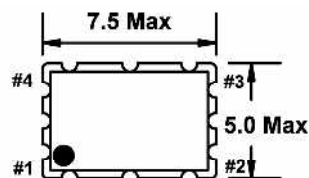
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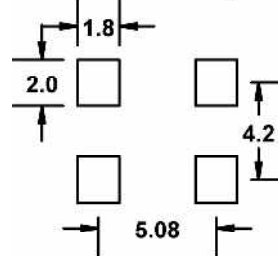
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