



3.3V HCMOS SMD OSCILLATOR WITH STANDBY MODEL: F4100 SERIES



FEATURES

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

OPTIONS

- 1.05mm Height Max



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

Internet required

• PART NUMBER SELECTION [Learn More - Internet Required](#)

Part Number	Model Number	Frequency Stability ¹	Operating Temperature (°C)	Frequency Range (MHz)
116-Frequency-xxxxx	F4100	±100PPM	-10 ~ +70	0.012 ~ 170.000
117-Frequency-xxxxx	F4100R	±100PPM	-40 ~ +85	0.012 ~ 170.000
124-Frequency-xxxxx	F4105	±50PPM	-10 ~ +70	0.012 ~ 170.000
125-Frequency-xxxxx	F4105R	±50PPM	-40 ~ +85	0.012 ~ 170.000
126-Frequency-xxxxx	F4106	±25PPM	-10 ~ +70	0.012 ~ 165.000
127-Frequency-xxxxx	F4106R	±25PPM*	-40 ~ +85	0.012 ~ 156.520
128-Frequency-xxxxx	F4108	±20PPM*	-10 ~ +70	0.012 ~ 162.000

• ELECTRICAL CHARACTERISTICS

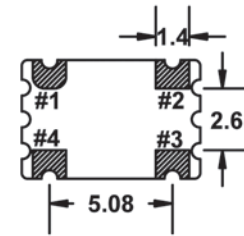
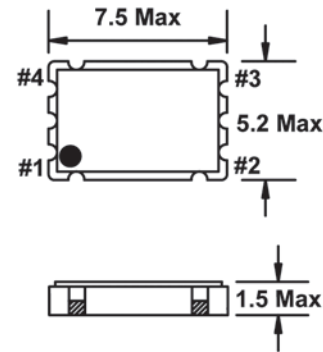
PARAMETERS	MAX (unless otherwise noted)
Frequency Range (Fo)	0.012 ~ 170.000 MHz
Storage Temperature Range (T _{STG})	-55°C ~ +125°C
Supply Voltage (V _{DD})	3.3V ± 10%
Input Current (I _{DD})	
0.012 ~ 0.040 MHz	3mA
0.040+ ~ 1.500 MHz	6mA
1.500+ ~ 32.000 MHz	15mA
32.000+ ~ 50.000 MHz	20mA
50.000+ ~ 67.000 MHz	25mA
67.000+ ~ 170.000 MHz	40mA
Output Symmetry (50% V _{DD})	
0.012 ~ 50.000 MHz	45% ~ 55%
50.000+ ~ 170.000 MHz	40% ~ 60%
Rise Time (10% ~ 90% V _{DD}) (T _R)	
0.012 ~ 80.000 MHz	6nS
80.000+ ~ 125.000 MHz	4nS
125.000+ ~ 170.000 MHz	3nS
Fall Time (90% ~ 10% V _{DD}) (T _F)	
0.012 ~ 80.000 MHz	6nS
80.000+ ~ 125.000 MHz	4nS
125.000+ ~ 170.000 MHz	3nS
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	10µA
Start-up Time (T _s)	
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
Jitter	
12kHz ~ 20MHz	0.3pS Typ.
RMS Period	2.5pS Typ.
Cycle-to-Cycle	20pS Typ.

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

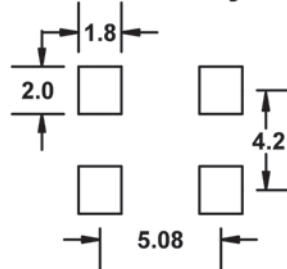
² An internal pullup resistor from pin 1 to pin 4 allows active output if pin 1 is left open.

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. 6/1/04



Recommended Solder Pad Layout



Pin Connections

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

All dimensions are in millimeters.

• ENABLE / DISABLE FUNCTION²

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



3.3V TIGHT STABILITY HCMOS SMD OSCILLATOR WITH STANDBY

MODEL: F4100 SERIES



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• PART NUMBER SELECTION [Learn More](#) - Internet Required

Part Number	Model Number	Frequency Stability ¹	Operating Temperature (°C)	Frequency Range (MHz)
549-Frequency-xxxxx	F4108R	±20PPM	-40 ~ +85	1.800 ~ 50.000
544-Frequency-xxxxx	F4107	±15PPM	-10 ~ +70	1.800 ~ 50.000
565-Frequency-xxxxx	F4107R	±15PPM	-40 ~ +85	1.800 ~ 50.000
545-Frequency-xxxxx	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)	-55°C ~ +125°C
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)	10% VDD
(VOH)	90% VDD Min
Output Current (IOL)	8mA Min
(IOH)	4mA Min
Output Load (HCMOS)	15pF
Standby Current	50µA
Start-up Time (Ts)	5mS
Output Disable Time ²	150nS
Output Enable Time ²	5mS

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

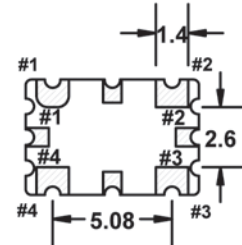
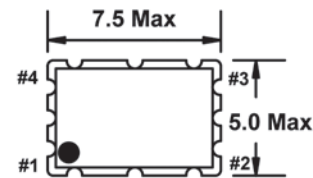
Note: A 0.01µF bypass capacitor should be placed between VDD (Pin 4) and GND (Pin 2) to minimize power supply line noise.

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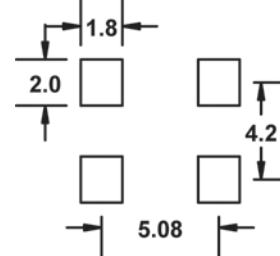


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