

# 3.3V, HCMOS, SMD Oscillator



Model: F4100 SERIES

RoHS Compliant / Pb Free

Rev. 1/16/2014

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## • PART NUMBER SELECTION

Part Number	Model Number	Frequency Stability <sup>1</sup>	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

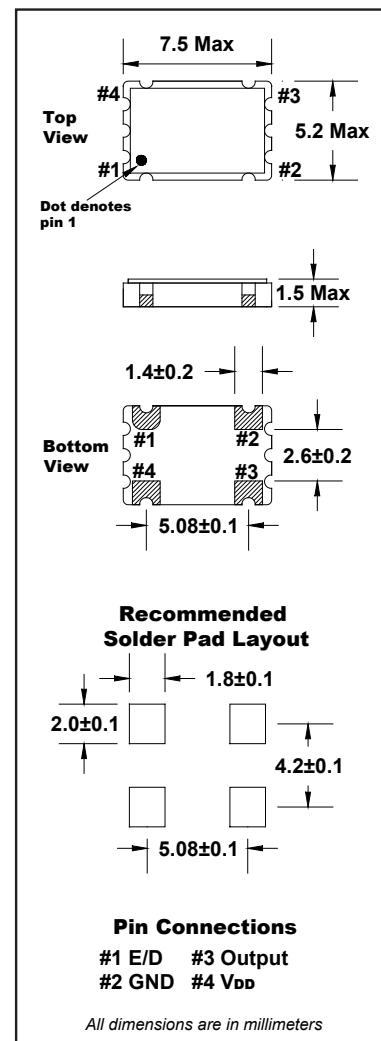
PARAMETERS	MAX (unless otherwise noted)
Frequency Range (Fo)	0.012 ~ 170.000 MHz
Storage Temperature Range (T <sub>STG</sub> )	-55°C ~ +125°C
Supply Voltage (V <sub>DD</sub> )	3.3V ± 10%
Input Current (I <sub>DD</sub> )	
0.012 ~ 0.040 MHz	3mA
0.040+ ~ 1.500 MHz	6mA
1.500+ ~ 32.000 MHz	15mA
32.000+ ~ 50.000 MHz	20mA
50.000+ ~ 67.000 MHz	25mA
67.000+ ~ 170.000 MHz	40mA
Output Symmetry (50% V <sub>DD</sub> )	
0.012 ~ 50.000 MHz	45% ~ 55%
50.000+ ~ 170.000 MHz	40% ~ 60%
Rise Time (10% ~ 90% V <sub>DD</sub> ) (T <sub>R</sub> )	
0.012 ~ 80.000 MHz	6nS
80.000+ ~ 125.000 MHz	4nS
125.000+ ~ 170.000 MHz	3nS
Fall Time (90% ~ 10% V <sub>DD</sub> ) (T <sub>F</sub> )	
0.012 ~ 80.000 MHz	6nS
80.000+ ~ 125.000 MHz	4nS
125.000+ ~ 170.000 MHz	3nS
Output Voltage (V <sub>OL</sub> )	10% V <sub>DD</sub>
(V <sub>OH</sub> )	90% V <sub>DD</sub> Min
Output Current (I <sub>OL</sub> )	2mA Min
(I <sub>OH</sub> )	-2mA Min
Output Load (HCMOS)	15pF
Standby Current	10µA
Start-up Time (T <sub>s</sub> )	
0.012 ~ 32.000 MHz	5mS
32.000+ ~ 170.000 MHz	10mS
Output Disable Time <sup>2</sup>	150nS
Output Enable Time <sup>2</sup>	
0.012 ~ 32.000 MHz	5mS
32.000+ ~ 170.000 MHz	10mS
Jitter (FO ≥ 100MHz)	
12kHz ~ 20MHz	0.3pS Typ.
RMS Period	2.5pS Typ.
Cycle-to-Cycle	20pS Typ.

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

<sup>2</sup>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<sub>DD</sub> (Pin 4) and GND (Pin 2) to minimize power supply line noise. Drawing is for reference to critical specifications defined by size measurements.

Certain non-critical visual attributes, such as side castellations, reference pin shape, etc. may vary. All specifications subject to change without notice.



## • ENABLE / DISABLE FUNCTION<sup>2</sup>

INH (Pin 1)	OUTPUT (Pin 3)
OPEN <sup>2</sup>	ACTIVE
'1' Level V <sub>IH</sub> ≥ 70% V <sub>DD</sub>	ACTIVE
'0' Level V <sub>IL</sub> ≤ 30% V <sub>DD</sub>	High Z

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## • TAPE SPECIFICATIONS (millimeters)

MODEL	A	B	C	D	E	F	STD Reel QTY
F4100 Series	∅1.5	4.0	8.0	7.5	16.0	2.15	2,000

## • REEL SPECIFICATIONS (millimeters)

MODEL	G	H	I	J	K	L	M
F4100 Series	2.0	∅13	∅21	∅80	∅255	17.5	2.0

