

# HCMOS 2.5x2mm 3.3V Oscillator



Model: F230 SERIES

RoHS Compliant / Pb Free

Rev. 12/2/2010

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Sample®

## FEATURES

- 3.3V Operation
- Standby Function
- Tape and Reel (3,000 pcs. STD)

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

Part Number	Model Number	Frequency Stability <sup>1</sup>	Operating Temperature (°C)	Frequency Range (MHz)
781-Frequency-xxxxx	F230	±100PPM	-20 ~ +70	0.750 ~ 50.000
781R-Frequency-xxxxx	F230R	±100PPM	-40 ~ +85	0.750 ~ 50.000
782-Frequency-xxxxx	F235	±50PPM	-20 ~ +70	0.750 ~ 50.000
782R-Frequency-xxxxx	F235R	±50PPM	-40 ~ +85	0.750 ~ 50.000
783-Frequency-xxxxx	F236	±25PPM	-20 ~ +70	0.750 ~ 50.000

## • ELECTRICAL CHARACTERISTICS

PARAMETERS	MAX (unless otherwise noted)
Frequency Range (Fo)	0.750 ~ 50.000 MHz
Storage Temperature Range (TSTG)	-55°C ~ +100°C
Supply Voltage (VDD)	3.3V ± 5%
Input Current (IDD)	
0.750 ~ 19.999 MHz	7mA
19.999+ ~ 39.999 MHz	13mA
39.999+ ~ 50.000 MHz	19mA
Output Symmetry (50% VDD)	45% ~ 55%
Rise Time (10% ~ 90% VDD) (Tr)	10nS
Fall Time (90% ~ 10% VDD) (Tf)	10nS
Output Voltage (VOL)	10% VDD
(VOH)	90% VDD Min
Output Current (IOL)	5mA Min
(IOH)	-5mA Min
Output Load (HCMOS)	15pF
Standby Current	5µA
Start-up Time (Ts)	10mS
Output Disable Time <sup>2</sup>	150nS
Output Enable Time <sup>2</sup>	10mS
Aging (Ta=25°C: per year)	± 5 PPM
Reflow Soldering Temp	260°C / 10 Seconds
Moisture Sensitivity Level (MSL)	1
Termination Finish	Au

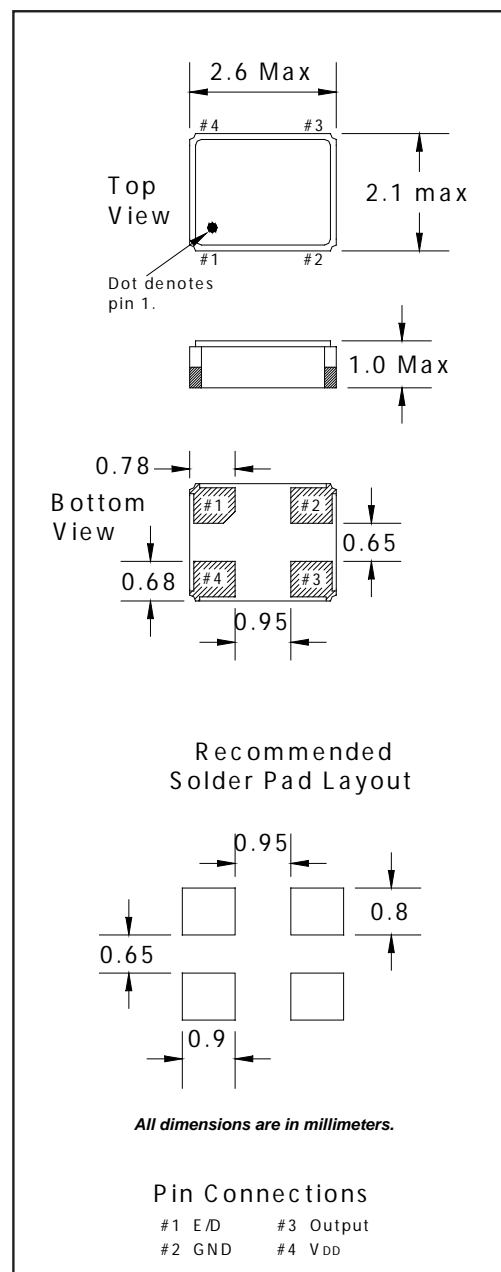
<sup>1</sup> Inclusive of 25°C tolerance, operating temperature range, input voltage change, load change, shock, and vibration.

<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 capacitor should be placed between VDD (Pin 4) and GND (Pin2) to minimize power supply noise. All specifications subject to change without notice.

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

INH (Pin 1)	OUTPUT (Pin 3)
OPEN	ACTIVE
'1' Level $V_{IH} \geq 80\% V_{DD}$	ACTIVE
'0' Level $V_{IL} \leq 20\% V_{DD}$	High Z

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## • TAPE SPECIFICATIONS (millimeters)

MODEL	A	B	C	D	E	F	STD Reel QTY
F230 Series	∅1.5	4.0	4.0	3.5	8.0	1.15	3,000

## • REEL SPECIFICATIONS (millimeters)

MODEL	G	H	I	J	K	L	M
F230 Series	2.0	∅13	∅21	∅60	∅180	9.0	2.0

