

# HCMOS 2.0x1.6mm 3.3V SMD Oscillator



Model: F130 SERIES

RoHS Compliant / Pb Free

Rev. 3/9/2011

Page 1 of 2

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## 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	Operating Temperature (°C)	Frequency Range (MHz)
837-Frequency-xxxxx	F130	±100PPM <sup>1</sup>	-20 ~ +70	1.000 ~ 80.000
837A-Frequency-xxxxx	F130R	±100PPM <sup>1</sup>	-40 ~ +85	1.000 ~ 80.000
837B-Frequency-xxxxx	F135	±50PPM <sup>1</sup>	-20 ~ +70	1.000 ~ 80.000
837C-Frequency-xxxxx	F135R	±50PPM <sup>1</sup>	-40 ~ +85	1.000 ~ 80.000
837D-Frequency-xxxxx	F136	±25PPM <sup>2</sup>	-10 ~ +60	1.000 ~ 80.000

### • ELECTRICAL CHARACTERISTICS

PARAMETERS	MAX (unless otherwise noted)
Frequency Range (Fo)	1.000~ 80.000 MHz
Storage Temperature Range (T <sub>STG</sub> )	-40°C ~ +85°C
Supply Voltage (V <sub>DD</sub> )	3.3V ± 10%
Input Current (I <sub>DD</sub> )	
1.000000 ~ 40.000000 MHz	5mA
40.000001 ~ 60.000000 MHz	10mA
60.000001 ~ 80.000000 MHz	15mA
Output Symmetry (50% V <sub>DD</sub> )	45% ~ 55%
Rise Time (10% ~ 90% V <sub>DD</sub> )	6nS
Fall Time (90% ~ 10% V <sub>DD</sub> )	6nS
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> )	4mA Min
(I <sub>OH</sub> )	-4mA Min
Output Load (HCMOS)	15pF
Standby Current	10µA
Start-up Time (T <sub>s</sub> )	2mS
Output Disable Time <sup>3</sup>	50uS
Output Enable Time <sup>3</sup>	2mS
Phase Noise ( 36 MHz @ 1 kHz offset)	-120dBc/Hz Typ.
Maximum Soldering Temp / Time	260°C ±5°C / 5 Seconds
Moisture Sensitivity Level (MSL)	1
Termination Finish	Au over Ni

<sup>1</sup> Inclusive of 25°C tolerance, operating temperature range, input voltage change, load change, reflow freq. shift and one year aging.

<sup>2</sup> Inclusive of 25°C tolerance and operating temperature range.

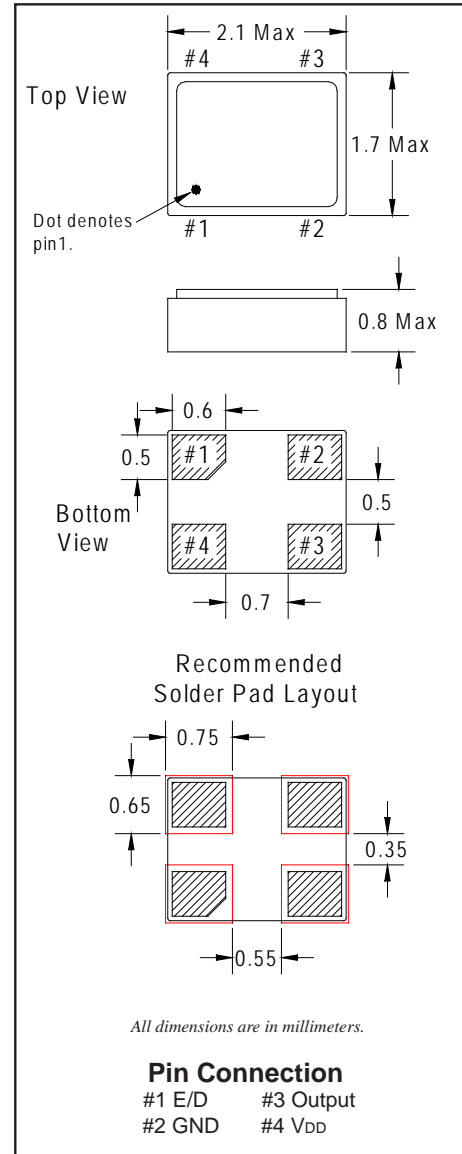
<sup>3</sup> An internal pullup resistor from pin 1 to pin 4 allows active output if pin 1 is left open.

Notes: A 0.01µF capacitor should be placed between V<sub>DD</sub> (Pin 4) and GND (Pin2) to minimize power supply noise.

Dimensional 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

Pin 1	OUTPUT (Pin 3)
OPEN <sup>3</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
F130 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
F130 Series	2.0	∅13	∅21	∅60	∅180	9.0	1.7

