

# Ultra Miniature SMD HCMOS TCXO



Model: FOX251 Series

RoHS Compliant / Pb Free

Rev. 2/22/2013

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## • PART NUMBER SELECTION

Part Number	Model Number	Supply Voltage (V <sub>DD</sub> )
830-Frequency-xxxxx	FOX251C	3.3V±5%
830A-Frequency-xxxxx	FOX251D	2.8V±5%
830B-Frequency-xxxxx	FOX251G	2.5V±5%
830C-Frequency-xxxxx	FOX251L	1.8V±5%

## • ELECTRICAL CHARACTERISTICS

PARAMETERS	MAX (unless otherwise noted)
Frequency Range (MHz)	4.000 ~ 54.000
Temperature Range	
Operating (T <sub>OPR</sub> )	-30°C ~ +75°C
Storage (T <sub>STG</sub> )	-40°C ~ +125°C
Supply Voltage (V <sub>DD</sub> )	+1.8V ~ +3.3 V <sub>DC</sub> ±5%
Input Current (I <sub>DD</sub> )	See table below
Standby Current	10uA
Initial Frequency Tolerance @ 25°C (after 2 reflows)	±1.5 PPM
Frequency Stability	
Over Temp Range	±2.5 PPM
Over Supply Voltage Change (V <sub>DD</sub> ±5%)	±0.2 PPM
Over Load Range (15pF ±10%)	±0.2 PPM
Rise Time (10% ~ 90% V <sub>DD</sub> ) (T <sub>R</sub> )	5nS
Fall Time (90% ~ 10% V <sub>DD</sub> ) (T <sub>F</sub> )	5nS
Symmetry (50% V <sub>DD</sub> )	45% ~ 55%
Output Voltage (V <sub>OL</sub> )	10% V <sub>DD</sub>
(V <sub>OH</sub> )	90% V <sub>DD</sub> MIN
Output Load (C <sub>L</sub> )	15pF
Aging per year	±1.0PPM
Startup Time (T <sub>S</sub> )	10mS
Disable Time	250nS
Enable Time	10mS
Phase Noise @ 10kHz offset	-140dBc/Hz Typical
Reflow Soldering Temp	260°C / 10 Seconds
Moisture Sensitivity Level (MSL)	1
Termination Finish	Au

## • INPUT CURRENT (I<sub>DD</sub>) (mA Max)

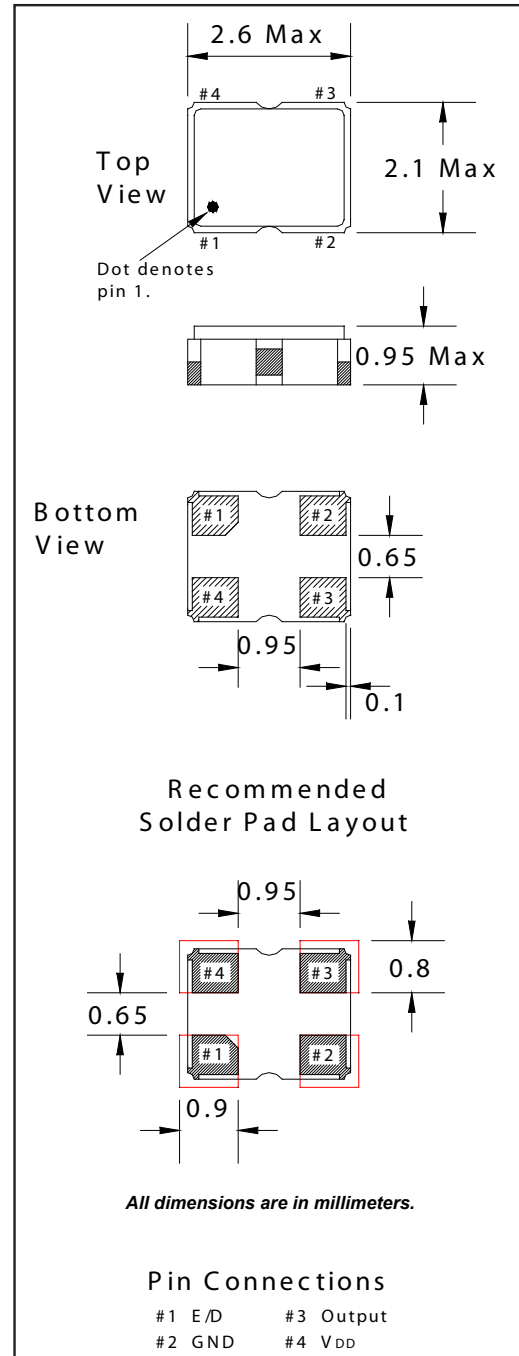
	4 ~ 10MHz	10+ ~ 20MHz	20+ ~ 30MHz	30+ ~ 40MHz	40+ ~ 54MHz
1.8V	3.1	3.7	4.2	4.6	5.5
2.5V	3.1	3.7	4.2	4.6	5.5
2.8V	3.4	4.1	4.7	5.2	6.0
3.3V	4.0	4.8	5.5	6.0	7.0

## • STANDARD FREQUENCIES<sup>1</sup>

5.000MHz	10.000MHz	12.000MHz
16.000MHz	20.000MHz	24.000MHz
32.000MHz	40.000MHz	44.000MHz

<sup>1</sup> Does not imply a stocked part.

<sup>2</sup> An internal pullup resistor from pin 1 to pin 4 allows active output if pin 1 is left open. 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 are subject to change without notice



## • ENABLE / DISABLE FUNCTION

(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