

# HCMOS 3.2x2.5mm 3.3V SMD Oscillator

Low Current



Model: F330A Series

RoHS Compliant / Pb Free

Rev. 7/23/2007

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Need a  
Sample®

## FEATURES

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

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

| Part Number          | Model Number | Frequency Stability <sup>1</sup> | Operating Temperature (°C) | Frequency Range (MHz) |
|----------------------|--------------|----------------------------------|----------------------------|-----------------------|
| 584A-Frequency-xxxxx | F330A        | ±100PPM                          | -10 ~ +70                  | 1.800 ~ 50.000        |
| 585A-Frequency-xxxxx | F330AR       | ±100PPM                          | -40 ~ +85                  | 1.800 ~ 50.000        |
| 586A-Frequency-xxxxx | F335A        | ±50PPM                           | -10 ~ +70                  | 1.800 ~ 50.000        |
| 587A-Frequency-xxxxx | F335AR       | ±50PPM                           | -40 ~ +85                  | 1.800 ~ 50.000        |
| 588A-Frequency-xxxxx | F336A        | ±25PPM                           | -10 ~ +70                  | 1.800 ~ 50.000        |
| 589A-Frequency-xxxxx | F336AR       | ±25PPM                           | -40 ~ +85                  | 1.800 ~ 50.000        |
| 590A-Frequency-xxxxx | F338A        | ±20PPM                           | -10 ~ +70                  | 1.800 ~ 50.000        |

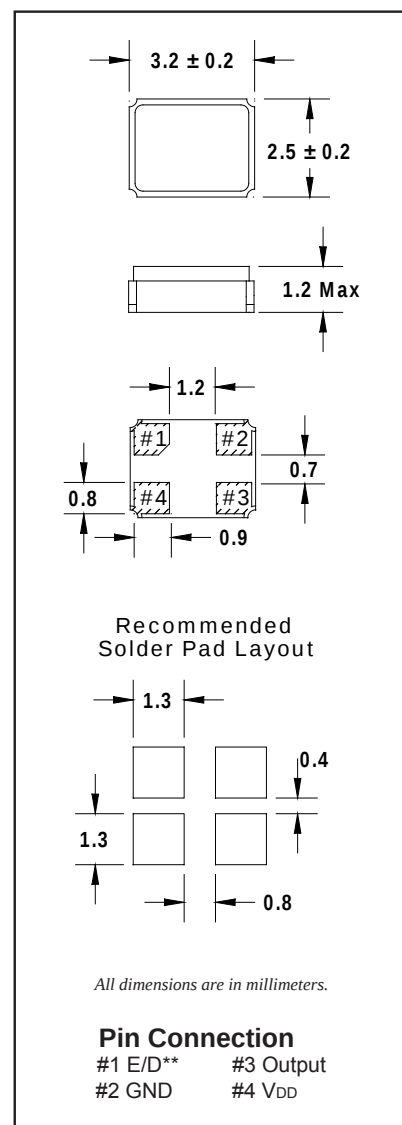
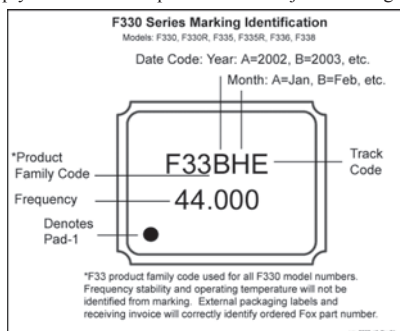
## • ELECTRICAL CHARACTERISTICS

| 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) (No Load)    |                              |
| 1.800 ~ 32.000 MHz               | 2.5mA                        |
| 32.000+ ~ 50.000 MHz             | 3.5mA                        |
| Output Symmetry (50% VDD)        | 45% ~ 55%                    |
| Rise Time (10% ~ 90% VDD) (Tr)   | 12nS                         |
| Fall Time (90% ~ 10% VDD) (Tf)   | 12nS                         |
| Output Voltage (VOL)             | 10% VDD                      |
| (VOH)                            | 90% VDD Min                  |
| Output Current (IOL)             | 2mA Min                      |
| (IOH)                            | -2mA Min                     |
| Output Load (HCMOS)              | 15pF                         |
| Standby Current                  | 1µA                          |
| Start-up Time (Ts)               | 5mS                          |
| Output Disable Time <sup>2</sup> | 150nS                        |
| Output Enable Time <sup>2</sup>  | 5mS                          |
| Reflow Soldering Temp            | 260°C / 10 Seconds           |
| Moisture Sensitivity Level (MSL) | 1                            |
| Termination Finish               | Au                           |

<sup>1</sup> Inclusive operating temperature range, input voltage change, load change, aging, 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 bypass capacitor should be placed between VDD (Pin 4) and GND (Pin 2) to minimize power supply line noise. All specifications subject to change without notice.



## • ENABLE / DISABLE FUNCTION

| INH (Pin 1)             | OUTPUT (Pin 3) |
|-------------------------|----------------|
| OPEN <sup>2</sup>       | ACTIVE         |
| '1' Level VIH ≥ 70% VDD | ACTIVE         |
| '0' Level VIL ≤ 30% VDD | High Z         |

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| • TAPE SPECIFICATIONS (millimeters) |      |     |     |     |     |     |              |
|-------------------------------------|------|-----|-----|-----|-----|-----|--------------|
| MODEL                               | A    | B   | C   | D   | E   | F   | STD Reel QTY |
| F330A Series                        | Ø1.5 | 4.0 | 4.0 | 3.5 | 8.0 | 1.3 | 2,000        |

| • REEL SPECIFICATIONS (millimeters) |     |     |     |     |      |     |     |
|-------------------------------------|-----|-----|-----|-----|------|-----|-----|
| MODEL                               | G   | H   | I   | J   | K    | L   | M   |
| F330A Series                        | 2.0 | Ø13 | Ø21 | Ø60 | Ø180 | 9.0 | 1.2 |

