

7 x 5mm High Frequency Low Jitter HCMOS Clock Oscillator

FEATURES

- Industry-standard 7.0 x 5.0mm package
- Frequency Range 125MHz to 260MHz
- High frequency range at low cost
- Supply voltage 2.5V or 3.3Volts
- Ultra-low phase noise and jitter
- Tristate function to conserve power

DESCRIPTION

XOA91 series oscillators are designed to provide an ultra-low phase noise and low jitter HCMOS output at high frequencies from 125MHz to 260MHz. An enable/disable function is standard and the oscillator may also be specified with a power down function.

SPECIFICATION

Frequency Range:	125.0MHz to 260.0MHz
Output Logic:	HCMOS
Phase Jitter:	0.2ps typical
RMS Period Jitter:	2.5ps typical
Frequency Stability	
Commercial:	$\pm 25\text{ppm}$ to $\pm 100\text{ppm}$ -10° to $+70^{\circ}\text{C}$
Industrial:	$\pm 25\text{ppm}$ to $\pm 100\text{ppm}$ -40° to $+85^{\circ}\text{C}$
Input Voltage:	$+2.5\text{V}$ to $+3.3\text{VDC} \pm 10\%$
Output Voltage	
High '1':	$+2.97\text{V}$ minimum
Low '0':	$+0.33\text{V}$ maximum
Rise/Fall Time:	0.25ns typical, 0.5ns max. (20%Vdd to 80%Vdd)
Current Consumption:	80mA typical (Frequency dependent)
Load:	15pF
Start-up Time:	5ms typical, 10ms maximum
Duty Cycle:	50% $\pm 5\%$ (Measured at Vdd-1.3V)
Input Static	
Discharge Protection:	2kV maximum
Ageing:	$\pm 2\text{ppm}$ per year maximum

ABSOLUTE MAXIMUM RATINGS

Permanent damage may occur if units are operated beyond specified limits.

Supply Voltage:	$+4.6\text{VDC}$ max.
Input Voltage Vi:	Vss-0.5 min., Vdd +0.5V max.
Input Voltage Vo:	Vss-0.5 min., Vdd +0.5V max.

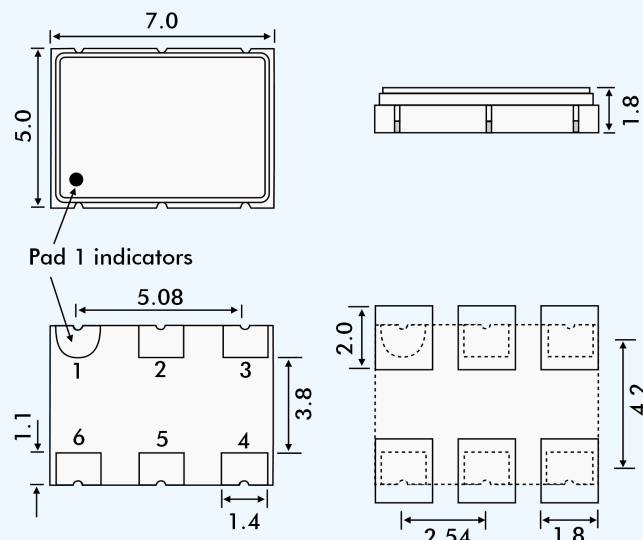
PART NUMBER SCHEDULE

Example: **250.00MHz XOA91050UCTB***

Frequency	250.00MHz
Series Designation XOA91	XOA91
Stability	050 = $\pm 50\text{ppm}$
100 = $\pm 100\text{ppm}$	
025 = $\pm 25\text{ppm}$	
Output Universal	U
Operating Temp. Range	C = Commercial (-10° ~ $+70^{\circ}\text{C}$)
I = Industrial (-40° ~ $+85^{\circ}\text{C}$)	
Output Option	T=Tristate (enable/disable) P= Powerdown*
Supply Voltage	A = 3.3 Volts
B = 2.5 Volts	



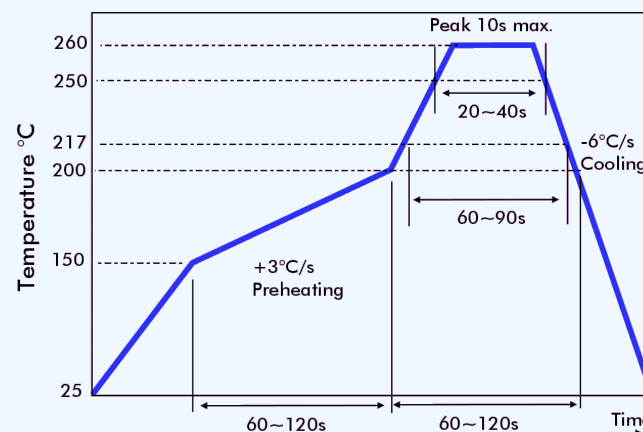
OUTLINE & DIMENSIONS



Pad Connections

- 1 Not connected
- 2 Enable/Disable (Tristate)
- 3 Ground
- 4 Output
- 5 Not connected
- 6 Supply Voltage

SOLDER TEMPERATURE PROFILE



TRISTATE

DISABLE	Output is disabled when Pad 1 is taken below 0.3 Vcc referenced to ground. Oscillator is continues to run.
ENABLE	Oscillator is enable when Pad 1 is taken above 0.7 Vcc referenced to ground.
POWER DOWN	Available by special request: Oscillator shuts down when disabled.