

## 7 x 5mm Low Power Consumption Clock Oscillator

### FEATURES

- Industry-standard 7.0mm x 5.0mm package
- Frequency Range 10MHz to 50MHz
- Low supply current <1.7mA at 1.8V supply
- Supply voltage range, 1.8V, 2.5V or 3.3Volts
- Tristate function to conserve power

### DESCRIPTION

XOK91 oscillators are ideal for battery operated portable or hand-held consumer electronic devices where small size and low supply current consumption is essential. A XOK53 oscillator at 27MHz and 1.8 Volts supply consumes less than 1.7mA in operating mode and less than 2 micro Amps in disabled mode. The oscillator is available with supply voltage at 1.8, 2.5 or 3.3 Volts.

### SPECIFICATION

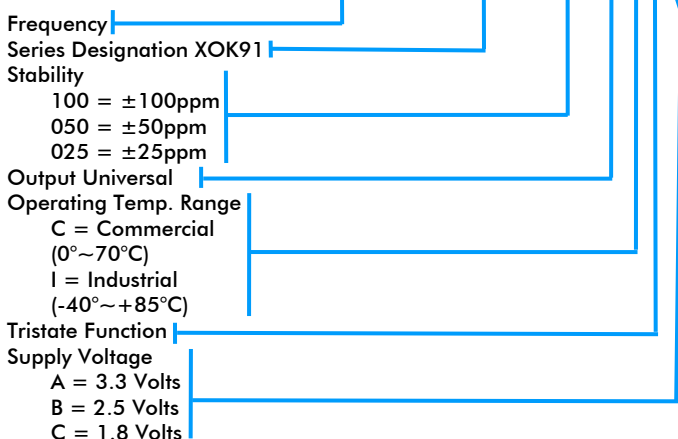
Frequency Range:	10.0MHz to 50.0MHz
Frequency Stability	
Commercial:	±25ppm to ±100ppm 0° to +70°C
Industrial:	±25ppm to ±100ppm -40° to +85°C
Output Logic:	HCMOS
Rise/Fall Time:	4ns typical (10% to 90%Vdd)
Fanout:	12mA typical (+3.0V)
Symmetry:	45% minimum, 55% maximum
Start-up Time:	10ms typical (Vdd reaches 1.62V)
Load:	15pF
Voltage Sensitivity:	±0.8ppm typical (10%Vdd variation)
Period Jitter (RMS)	2.1ps typical with capacitive decoupling between Vdd and Gnd.

Supply Voltage Dependant Parameters	Supply Voltage (±10%)			
	+1.8V	+2.5V	+3.3V	
Output Voltage HIGH '1':	+1.40Vmin.	+2.0Vmin.	+2.4Vmin.	
Output Voltage LOW '0':	+0.2Vmax.	+0.3Vmax.	+0.4Vmax.	
Current Consumption mA typical	10.000MHz	0.66mA	0.96mA	1.42mA
	13.500MHz	0.88mA	1.28mA	1.82mA
	16.000MHz	1.05mA	1.51mA	2.12mA
	20.945MHz	1.34mA	1.86mA	2.58mA
	25.000MHz	1.54mA	2.17mA	3.00mA
	27.000MHz	1.69mA	2.35mA	3.25mA
	30.000MHz	1.93mA	2.74mA	3.77mA
	38.000MHz	2.27mA	3.26mA	4.48mA
50.000MHz	2.60mA	3.90mA	4.95mA	

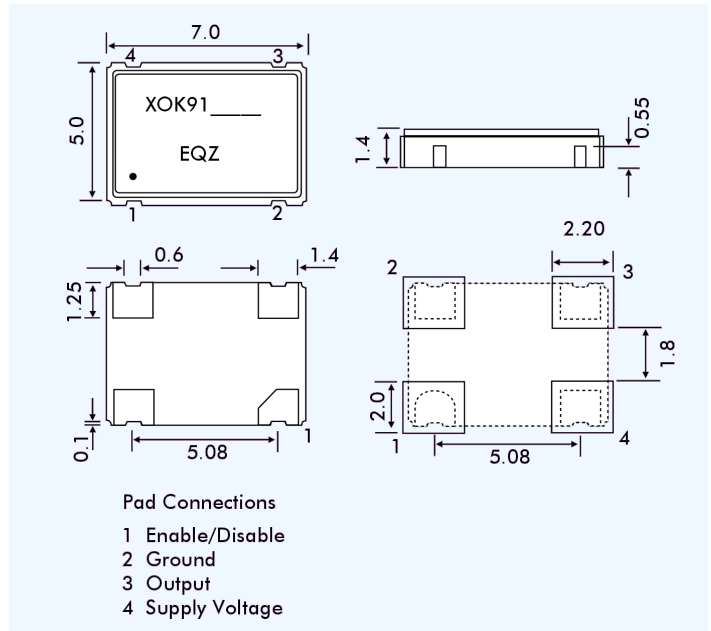
Tristate (Pad 1 grounded): 2uA typical 4uA max. (oscillator is off)

### PART NUMBERING

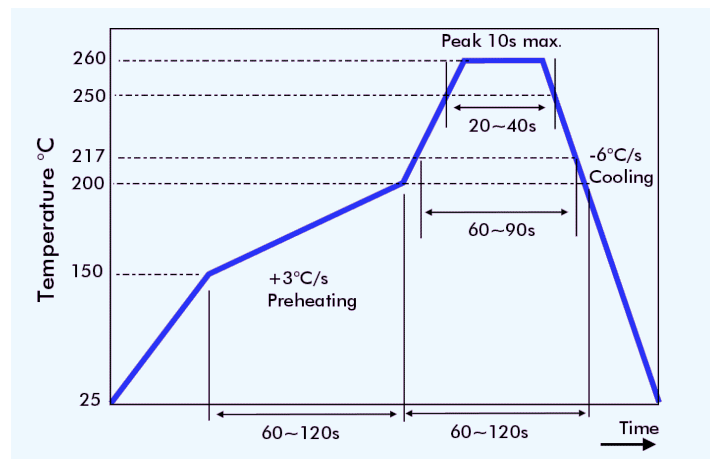
Example: **27.000MHz XOK91050UCTC**



### OUTLINE & DIMENSIONS



### SOLDER TEMPERATURE PROFILE



### PHASE NOISE

Offset	100Hz	1kHz	10kHz	100kHz	1MHz
dBc/Hz	-80	-110	-130	-138	-145

### NOTES

- Pad 1 Options: Pad 1 connected to ground, output disabled  
 No connection/Logic HIGH, output enabled  
 Disable time 10ms typical  
 Enable time 10ms typical
- Ageing: ±5ppm per year max.  
 ESD Protection: 2000V max., human body model  
 Packaging: 16mm tape, 8mm pitch. 1000 pieces/reel