

FEATURES

- Micro-miniature 5.0 x 3.2mm package
- Frequency Range 370kHz to 50MHz
- Low supply current <1.7mA at 1.8V supply
- Supply voltage range, 1.8, 2.5V or 3.3 Volts
- Tristate function to conserve power
- Stable and clean CMOS output

DESCRIPTION

XOK53 oscillators are designed for battery operated portable and/or hand-held consumer electronic devices where small size and low supply current consumption is essential. A XOK53 at 27MHz and 1.8 Volts supply consumes less than 1.7mA in operating mode and less than 2 μ A in disabled mode. XOK53 phase noise is -130dBc/Hz at 10kHz offset. The oscillator is available with supply voltage 1.8, 2.5 or 3.3 Volts.

SPECIFICATION

Frequency Range:	1370.0kHz to 50.0MHz
Frequency Stability	
Commercial:	± 25 ppm to ± 100 ppm -10° to +70°C
Industrial:	± 25 ppm to ± 100 ppm -40° to +85°C
Output Logic:	HCMOS
Rise/Fall Time:	4ns typical (10% to 90%Vdd)
Current Consumption:	12mA typical (+3.0V)
Symmetry:	45% minimum, 55% maximum
Start-up Time:	10ms typical (Vdd reaches 1.62V)
Load:	15pF
Voltage Sensitivity:	± 0.8 ppm typical (10%Vdd variation)
Period Jitter (RMS)	2.1ps typical with capacitive decoupling between Vdd and Gnd.

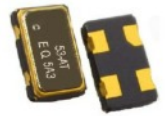
Supply Voltage Dependant Parameters	Supply Voltage ($\pm 10\%$)			
	+1.8V	+2.5V	+3.3V	
Output Voltage HIGH '1':	+1.40Vmin.	+2.0Vmin.	+2.4Vmin.	
Output Voltage LOW '0':	+0.2Vmax.	+0.3Vmax.	+0.4Vmax.	
Current Consumption mA typical	16.000MHz	1.05mA	1.51mA	2.12mA
	20.945MHz	1.34mA	1.86mA	2.58mA
	25.000MHz	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): 2 μ A typical 4 μ A max. (oscillator is off)

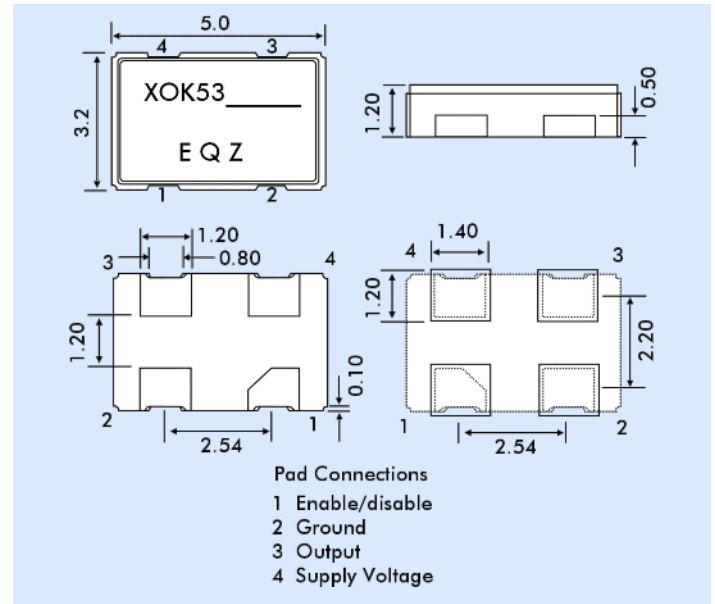
PART NUMBERING

Example: **27.000MHz XOK53050UCTC**

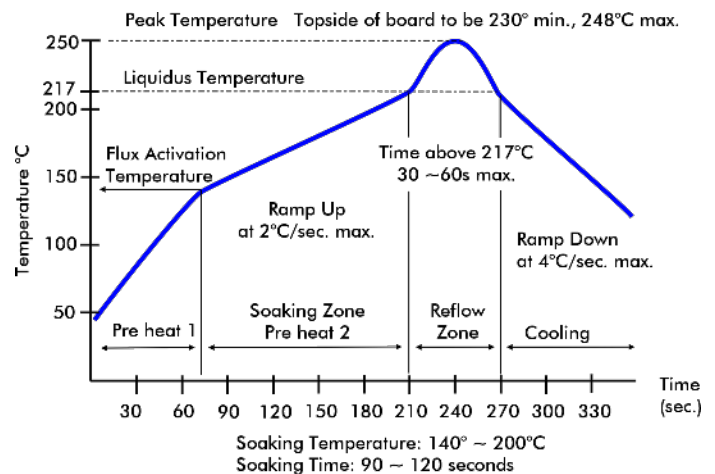
- Frequency
- Series Designation XOK53
- Temperature Stability
 - 100 = ± 100 ppm
 - 050 = ± 50 ppm
 - 025 = ± 25 ppm
- Output CMOS
- Operating Temp. Range
 - C = Commercial (-10°~70°C)
 - I = Industrial (-40°~+85°C)
- Tristate Function
- Supply Voltage
 - A = 3.3 Volts
 - B = 2.5 Volts
 - C = 1.8 Volts



OUTLINE & DIMENSIONS



SOLDER TEMPERATURE PROFILE



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:** ± 5 ppm per year max.
- ESD Protection:** 2000V max., human body model
- Packaging:** 12mm tape, 8mm pitch. 1000 pieces/reel

PHASE NOISE

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