

5 x 3.2mm SMD Low Power Consumption Clock Oscillator

FEATURES

- Micro-miniature 5.0mm x 3.2mm package
- Frequency Range 16MHz to 50MHz
- Low supply current <1.7mA at 1.8V supply
- Supply voltage range, 1.8, 2.5V or 3.3Volts
- Tristate function to conserve power

DESCRIPTION

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

SPECIFICATION

Frequency Range:	16.0MHz to 56.0MHz
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)
Current Consumption:	12mA typical (+3.0V)
Symmetry:	45% minimum, 55% maximum
Start-up Time:	10ms typical (Vdd reaches 1.62V)
Load:	15pF
Voltage Sensitivity:	±0.8ppm 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	16.000MHz	1.05mA	1.51mA
	20.945MHz	1.34mA	1.86mA
	25.000MHz	1.54mA	2.17mA
	27.000MHz	1.69mA	2.35mA
	30.000MHz	1.93mA	2.74mA
	38.000MHz	2.27mA	3.26mA
	50.000MHz	2.60mA	3.90mA

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

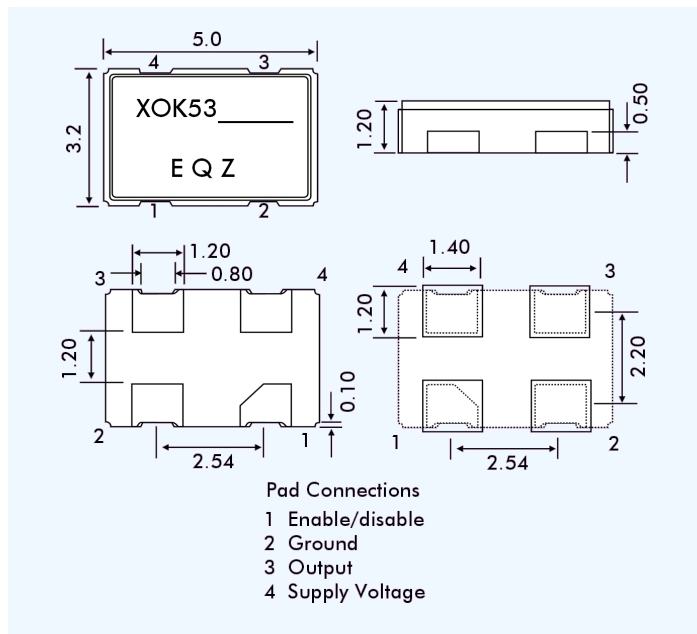
PART NUMBERING

Example: **27.000MHz XOK53050UCTC**

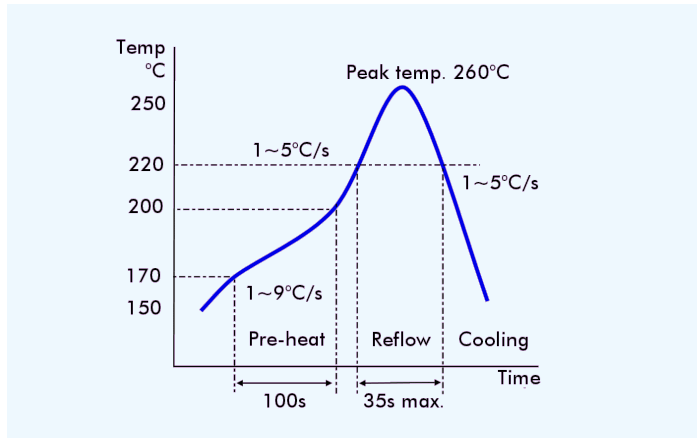
Frequency	27.000MHz
Series Designation XOK53	XOK53
Stability	050 = ±50ppm
Output Universal	025 = ±25ppm
Operating Temp. Range	C = Commercial (0°~70°C)
	I = Industrial (-40°~+85°C)
Tristate Function	
Supply Voltage	A = 3.3 Volts
	B = 2.5 Volts
	C = 1.8 Volts



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

PHASE NOISE

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