

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

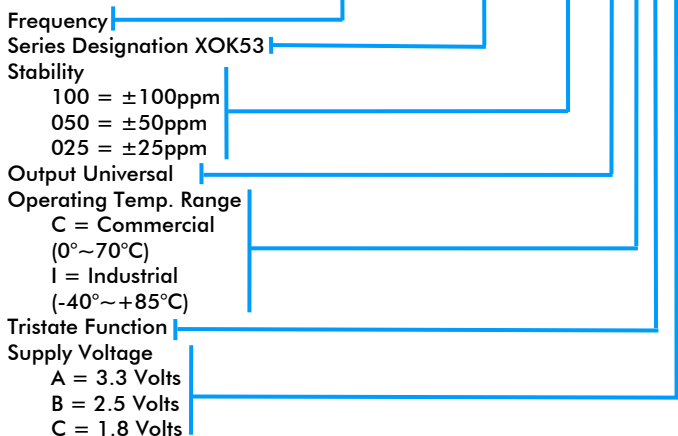
Frequency Range:	16.0MHz to 56.0MHz
Frequency Stability	
Commercial:	±25ppm to ±100ppm 0° to +70°C
Industrial:	±25ppm to ±100ppm -40° to +85°C
Output Logic:	HCMOS
Rise/Fall Time:	4ns typical (10% to 90%Vdd)
Current Consumption:	12mA typical (+3.0V)
Symmetry:	45% minimum, 55% maximum
Start-up Time:	10ms 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	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	

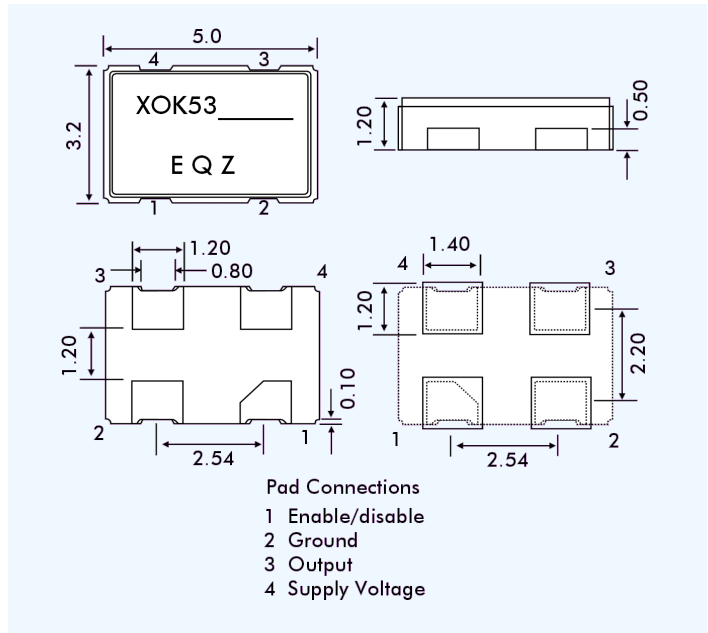
Tristate (Pad 1 grounded): 2uA typical 4uA max. (oscillator is off)

PART NUMBERING

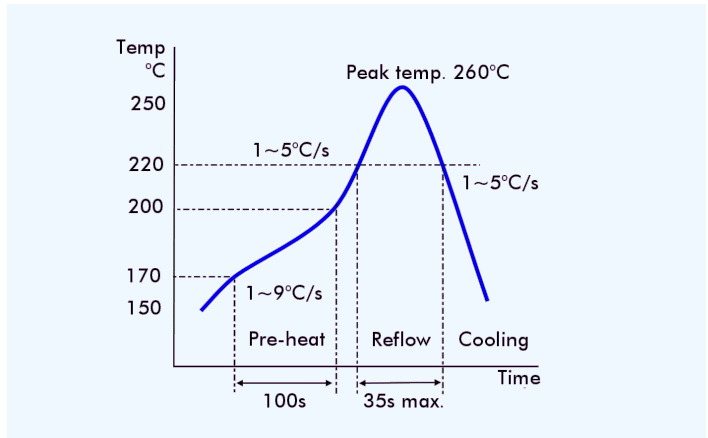
Example: **27.000MHz XOK53050UCTC**



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