

### FEATURES

- 5 x 3.2mm SMD package with AT-Cut crystal for high stability
- Frequency 32.768kHz for real time clock applications
- Tristate (Enable/Disable) function as standard
- Supply voltage 3.3V, 2.5V or 1.8 Volts



### DESCRIPTION

XOA53 miniature oscillators consist of a TTL/CMOS-compatible hybrid circuit together with a miniature AT-Cut quartz crystal packaged in a low-profile, industry-standard ceramic package. The AT-Cut crystal provides high frequency stability but with a low  $\mu\text{A}$  current consumption, usually only available with a X-Cut crystal.

### SUPPLY VOLTAGE DEPENDANT SPECIFICATION

Supply Voltage (Vdd)	+1.8VDC	+2.5VDC	+3.3VDC
Current Consumption (32.768kHz, 15pF load)	65 $\mu\text{A}$ typ., 80 $\mu\text{A}$ max.	70 $\mu\text{A}$ typ., 90 $\mu\text{A}$ max.	75 $\mu\text{A}$ typ., 100 $\mu\text{A}$ max.
Output Logic HIGH (VOH; IOH= -1.0mA)	1.62 V min.	2.25V min.	2.97V min.
Output Logic LOW (VOL; IOL= -1.0mA)	0.18V max.	0.25V max.	0.33V max.
Rise Time/Fall Time	5.0ns typ., 10ns max.	4.0ns typ., 10ns max.	3.0ns typ., 10ns max.

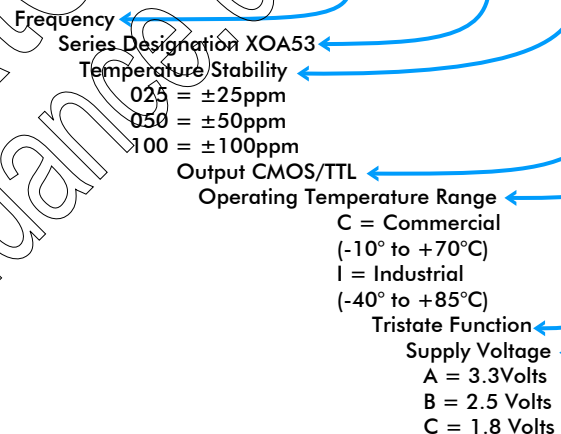
### GENERAL SPECIFICATION

Frequency:	from 10kHz to 100kHz
Supply Voltage:	1.8V or 2.5V $\pm$ 10% or 3.3 Volts $\pm$ 10%
Output Logic:	HCMOS/LSTTL
Frequency Stability:	$\pm$ 25ppm, $\pm$ 50ppm or $\pm$ 100ppm over Operating Temp. Range
Operating Temp. Range:	-10 to +70°C (Commercial) -40 to +85°C (Industrial)
Supply V. vs. Freq. Stability:	$\pm$ 1 ppm max.
Output Load :	15pF
Duty Cycle:	50% $\pm$ 3% typical, 50% $\pm$ 5% max.
Storage Temperature:	-55° to +125°C
Startup Time:	0.8ms typical 5.0ms max.
Ageing:	$\pm$ 3ppm max. per year
Tristate Function (Pad 1):	Output (Pad 3) is active if Pad 1 is not connected or a voltage to Pad 1 is 'HIGH'. Output is high impedance when 'LOW' or GROUND is applied to Pad 1.
Enable/Disable Time:	Enable: 1ms max., Disab: 0.1 $\mu$ s max.

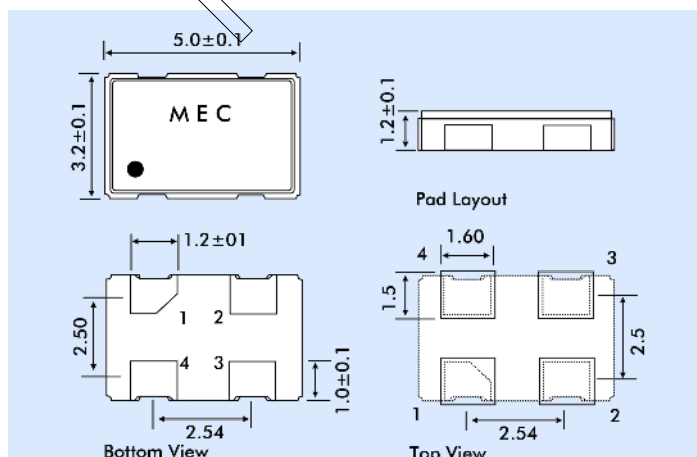
Note: Parameters are measured at ambient temperature of 25°C, supply voltage as stated and a load of 15pF

### PART NUMBERING

Example: **32.768kHz XOA53025UCTA**



### OUTLINE & DIMENSIONS



- Pad Connections:
1. High Enable
  2. Ground
  3. Output
  4. Supply Voltage