

FEATURES

- **AT-Cut crystal for excellent temperature stability**
- **Low power consumption: 80µA typical at 15pF load**
- **Wide supply voltage: +1.8 V to 5.0 Volts**
- **Stability ±20ppm, 25ppm or ±30ppm**
- **Fast start-up time**
- **Micro-miniature 2.5mm x 2.0mm package**

DESCRIPTION

XO2520 oscillators utilise AT-Cut crystals providing much improved, tight frequency stability as opposed to that stability provided by 32.768kHz oscillators using the more usual X-Cut (tuning fork) crystals. The tight control of frequency provided by these oscillators results in a typical variation of 52 seconds for one month of continuous operation as against 260 seconds over the same period for oscillators that use tuning fork crystals. Other benefits include low supply current consumption coupled with quick start-up times.

SPECIFICATION

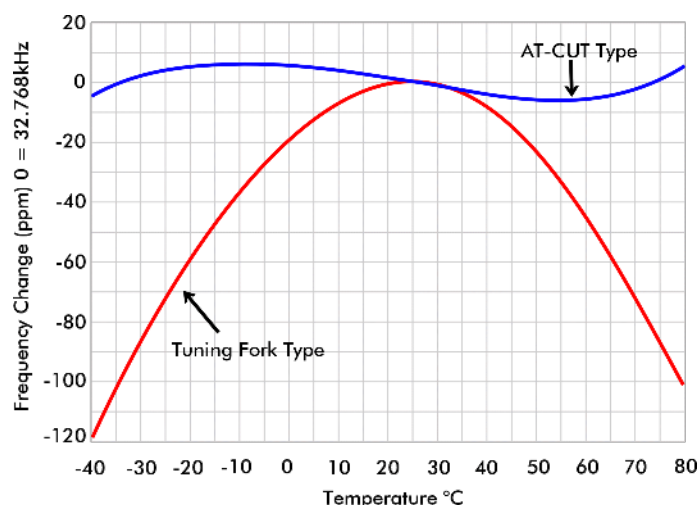
Frequency:	32.7680kHz
Frequency stability*	±20ppm, ±25ppm, ±30ppm (Overall conditions)
Operating Temperature Range:	-40° to +85°C
Storage Temperature Range:	-55° to +125°C
Input Voltage:	+1.8 Volts to 5.0 Volts ±5%
Input Current:	100µA maximum (80µA typical)
Output Symmetry:	45% to 55% at ½ Vdd level
Rise/Fall Times:	6ns maximum (10% to 90%Vdd)
Logic Low '0' Level (Vol):	10% Vdd maximum
Logic High '1' Level (Voh):	90% Vdd minimum
Output Load:	CMOS 15pF maximum
Start-up Time:	1ms maximum
Ageing:	±3ppm max. at 25±3°C 1st year
Enable/Disable Delay Time*:	100ns maximum

NOTE

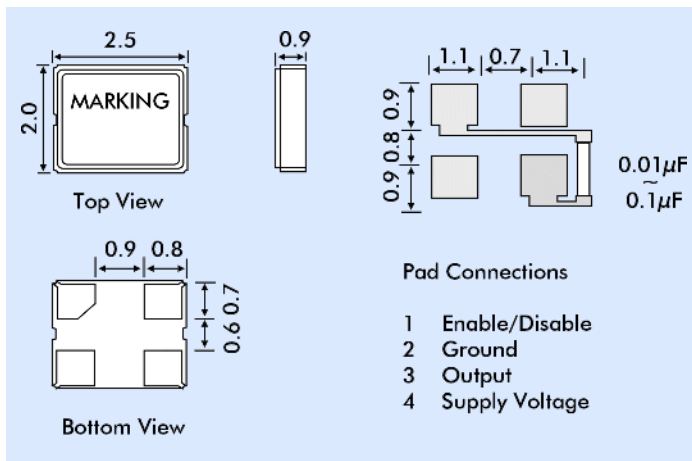
* The Output (Pad 3) is active if not connected or a voltage to Pad 1 is 'HIGH'. Output is high impedance when 'LOW' or Ground is applied to Pad 1.

STABILITY OVER TEMPERATURE

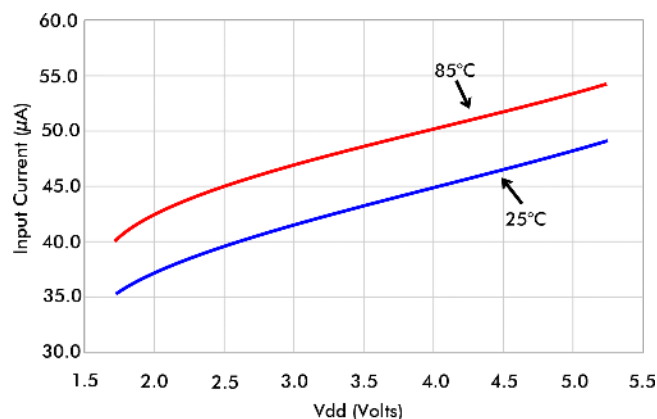
(High stability over -40° to +85°C for XO2025 AT-Cut Type)



OUTLINE & DIMENSIONS



INPUT CURRENT vs. VDD



PART NUMBERS

XO2520 oscillators part numbers are ordered as follows:

