

## XOP90 SERIES

### Plastic Encapsulated 14 x 9.8mm SMD Programmable Oscillators

#### DESCRIPTION

The Euroquartz range of factory programmable oscillators provide custom frequency and specification oscillators within very short lead times. The parts are very reliable in use and have stabilities from  $\pm 25\text{ppm}$  over -40° to 85°C. In addition to the stability over operating temperature range customers may also choose from supply voltages of 2.7, 3.3 and 5.0 Volts, Enable/Disable or Power Down functions and output synchronous or asynchronous.

#### FEATURES

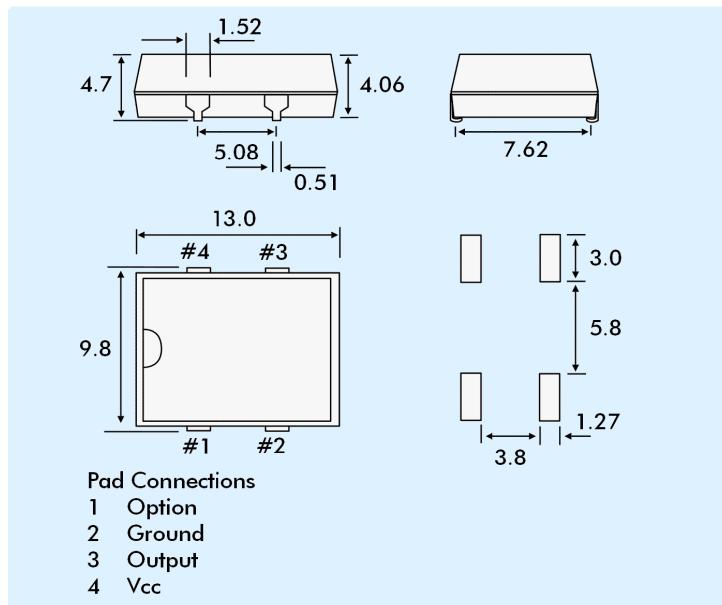
- Very quick delivery available
- Industry-standard 14 x 9.8mm SMD package
- Frequency range 1MHz to 133MHz
- Supply Voltages 2.7 Volts, 3.3 Volts or 5.0 Volts
- Enable/Disable or Power Down options

#### GENERAL SPECIFICATION

Package Type:	Plastic (Resin)encapsulated
Frequency Range	
5.0 Volt Supply:	1.0MHz to 133.0MHz
3.3 Volt Supply:	1.0MHz to 100.0MHz
2.7 Volt Supply:	1.0MHz to 100.0MHz
Frequency Stability*:	$\pm 25\text{ppm}$ to $\pm 100\text{ppm}$ (over operating temperature range)
Operating Temperature Range	
Choice of three ranges:	0° ~ +70°C      Part code: 'C' -20° ~ +70°C      Part code: 'D' -40° ~ +85°C      Part code: 'I'
Storage Temperature Range:	-55° to +125°C
Ageing:	$\pm 5\text{ppm/year}$ maximum (Ta=25°C, Vdd=2.7V, 3.3V or 5.0V)
Packaging:	Bulk pack or tubed
Output Levels:	TTL or CMOS
Maximum Output Loads	
<40MHz:	30pF (See note opposite)
>40MHz:	15pF (See note opposite)
Duty Cycle	
CMOS <40MHz:	45/55% maximum
CMOS >40MHz:	40/60% maximum
Output Clock Rise/Fall Times:	4ns maximum
Power Supply Current:	25mA (unloaded)
Standby Current:	10mA typical 50mA maximum
Start-up Time:	10ms maximum (from power-on)
Power Down Delay Time	
Synchronous:	T/2ns typical, T+10ns maximum
Asynchronous:	10ns typical, 15ns maximum
Output Disable Time	
Synchronous:	T/2ns typical, T+10ns maximum
Asynchronous:	10ns typical, 15ns maximum (T = frequency period)
Output Enable Time:	100ns maximum
RMS Jitter	
1MHz~33MHz:	$\pm 50\text{ps}$ maximum
33MHz~133MHz:	$\pm 40\text{ps}$ maximum

\* The frequency stability parameter is an inclusive figure and includes adjustment tolerance at 25°C, stability over operating temperature range, variations due to load change  $\pm 10\%$ , supply voltage change  $\pm 10\%$ , first year ageing, shock and vibration.

#### OUTLINE & DIMENSIONS



#### OPERATING LOAD CONDITIONS

##### Maximum Capacitive Load TTL

5.0 Volt Supply	
1.0MHz ~ 40MHz:	50pF
40.1MHz ~ 133MHz:	25pF

##### Maximum Capacitive Load CMOS

5.0 Volt Supply	
1.0MHz ~ 66MHz:	50pF
66.1MHz ~ 133MHz:	25pF
3.3 Volt/2.7 Volt Supply	
1.0MHz ~ 40MHz:	30pF
40.1MHz ~ 100MHz:	15pF

#### PRODUCT SELECTION

Model Number	Frequency Stability (ppm)	Operating Temperature Range
XOPL90100UC	$\pm 100$	0° ~ +70°
XOPL90050UC	$\pm 50$	0° ~ +70°
XOPL90025UC	$\pm 25$	0° ~ +70°
XOPL90100UD	$\pm 100$	-20° ~ +70°
XOPL90050UD	$\pm 50$	-20° ~ +70°
XOPL90025UD	$\pm 25$	-20° ~ +70°
XOPL90100UI	$\pm 100$	-40° ~ +85°
XOPL90050UI	$\pm 50$	-40° ~ +85°
XOPL90025UI	$\pm 25$	-40° ~ +85°

#### PART NUMBER GENERATION

Frequency	Model No.	Supply Voltage	Output Option
Nominal Frequency (MHz)	See table above	Blank = 5.0 Volts A = 3.3 Volts B = 2.7 Volts	T = Tristate (Enable/Disable) P = Power Down

EXAMPLE: 24.8920MHz XOP90050UDTA

Frequency = 24.8920MHz, XOP90 package,  $\pm 50\text{ppm}$  -20° ~ +70°C, Tristate, supply voltage 3.3 Volts

#### SYNCHRONOUS/ASYNCHRONOUS

By default oscillators with Enable/Disable or Power Down functions are supplied ASYNCHRONOUS. If SYNCHRONOUS operation is required append 'SYNC' to the part number