

XOPL53 SERIES

Low Jitter 5mm x 3.5mm 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

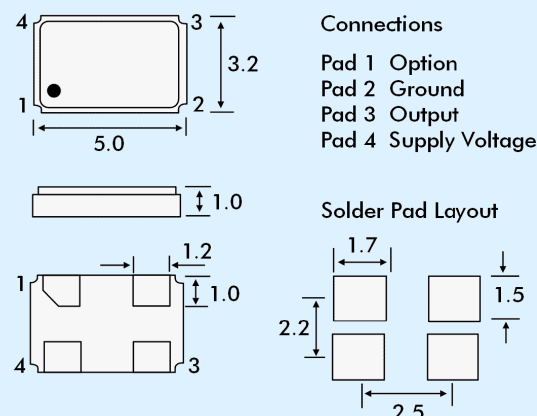
- Very quick delivery available
- Micro-miniature 5mm x 3.2mm SMD package
- Frequency range 1MHz to 160MHz
- Ultra low jitter @ 1 million samples
- Supply Voltages 2.7 Volts, 3.3 Volts or 5.0 Volts
- Enable/Disable or Power Down options

GENERAL SPECIFICATION

Package Type:	SMD, ceramic, seam-welded lid	
Frequency Range		
5.0 Volt Supply:	1.0MHz to 160.0MHz	
3.3 Volt Supply:	1.0MHz to 160.0MHz	
2.7 Volt Supply:	1.0MHz to 160.0MHz	
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:	$\pm 5\text{ppm}/\text{year}$ maximum ($T_a = 25^\circ\text{C}$, $V_{dd} = 2.7\text{V}$, 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 ($T = \text{frequency period}$)	
Output Enable Time:	100ns maximum	
Period Jitter S, 1MHz~133MHz:	8ps typical, 99ps maximum	
Period Jitter Peak to Peak		
<33.0MHz:	65ps typical, 99ps maximum	
33MHz~133MHz:	65ps typical, 80ps 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
XOPL53100UC	± 100	0° ~ +70°
XOPL53050UC	± 50	0° ~ +70°
XOPL53025UC	± 25	0° ~ +70°
XOPL53100UD	± 100	-20° ~ +70°
XOPL53050UD	± 50	-20° ~ +70°
XOPL53025UD	± 25	-20° ~ +70°
XOPL53100UI	± 100	-40° ~ +85°
XOPL53050UI	± 50	-40° ~ +85°
XOPL53025UI	± 25	-40° ~ +85°

PART NUMBER GENERATION

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

EXAMPLE: 24.8920MHz XOPL53050UDTA

Frequency = 24.8920MHz, XOPL53 package, $\pm 50\text{ppm}$ $-20^\circ \sim +70^\circ\text{C}$, 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