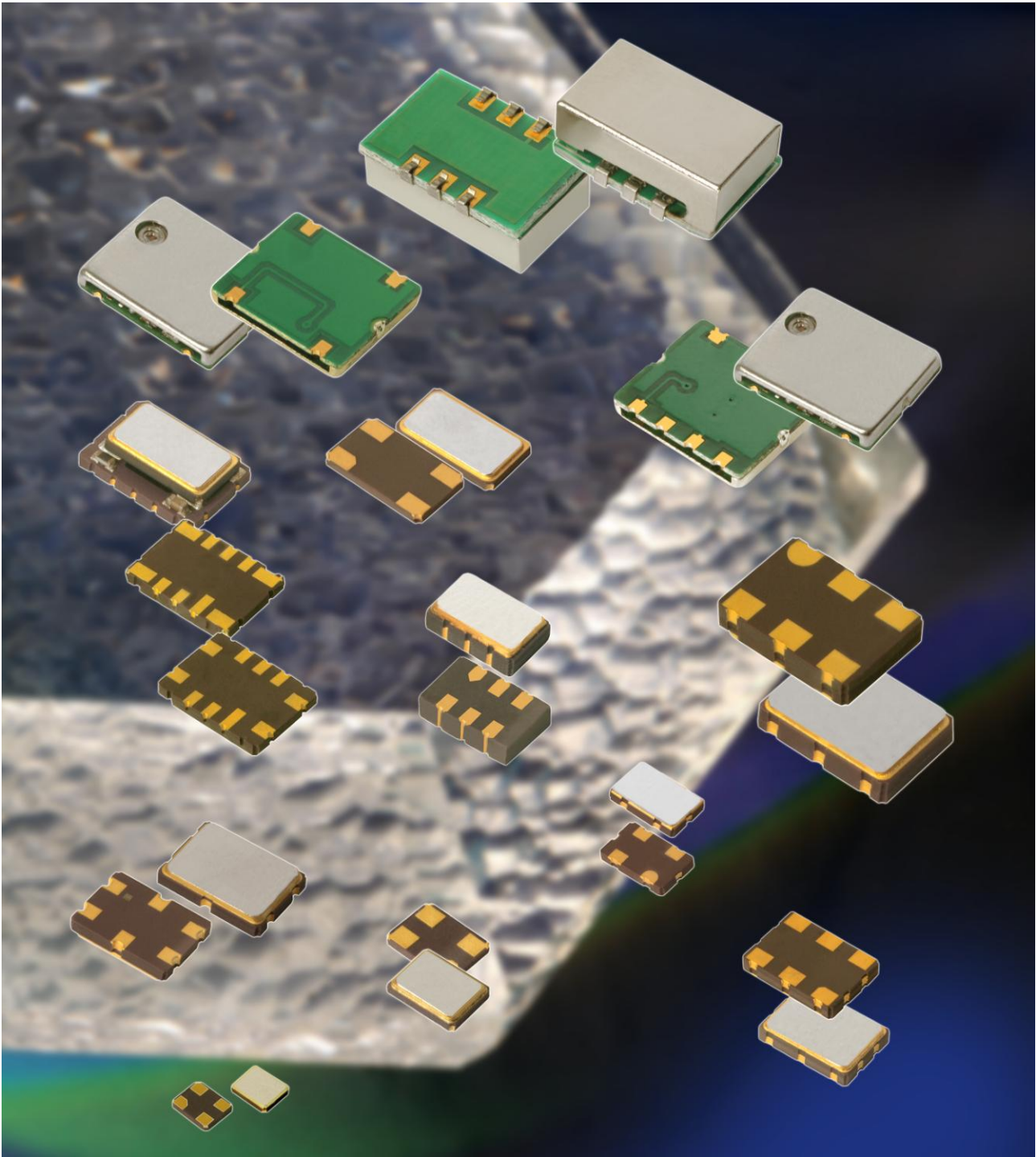




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MORE THAN FREQUENCY

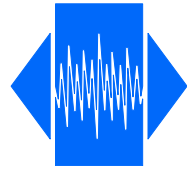
Voltage Controlled Crystal Oscillators



VCXO

Voltage Controlled Crystal Oscillator

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the communications company



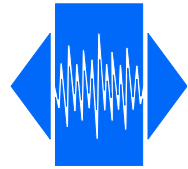
Surface-Mounted Type

Type	Package Size	Frequency Range	Supply Voltage	Pulling Range	Output Signal	Package Type	
	[mm]	[MHz]	[V]	[ppm]			
NEW VXO-6S-4p	2.5 x 2.0	2MHz to 54 MHz	1.8 v 2.8 V 3.3 V	± 50 ~ ± 100 ppm	CMOS		
NEW VXO-5S-4p	3.2 x 2.5	2MHz to 54 MHz	1.8 v 2.8 V 3.3 V	± 50 ~ ± 100 ppm	CMOS		
NEW VXO-5S-6p	3.2 x 2.5	2MHz to 54 MHz	1.8 v 2.8 V 3.3 V	± 50 ~ ± 100 ppm	CMOSL		
VXO-3S-PE-6p fundamental	5.0 x 3.2	60 MHz to 175 MHz	3.3 V 5.0 V	± 50 ~ ± 100 ppm	LVPECL		
VXO-3S-DS-6p fundamental	5.0 x 3.2	60 MHz to 175 MHz	3.3 V 5.0 V	± 50 ~ ± 100 ppm	LVDS		
VXO-2S-4p fundamental	6.0 x 3.5	1.5 MHz To 78 MHz	3.3 V 5.0 V	± 50 ~ ± 100 ppm	HCMOS / TTL		
VXO-1S-4p fundamental	7.0 x 5.0	1.5 MHz to 200 MHz	3.3 V 5.0 V	± 50 ~ ± 100 ppm	HCMOS / TTL		
VXO-1S-6p fundamental	7.0 x 5.0	1.5 MHz to 200 MHz	3.3 V 5.0 V	± 50 ~ ± 100 ppm	HCMOS / TTL		
VXO-1S-PE-6p fundamental	7.0 x 5.0	1.5 MHz to 200 MHz	2.5 V 3.3 V	± 50 ~ ± 100 ppm	LVPECL		
VXO-1S-PEM-6p multiplies	7.0 x 5.0	100 MHz to 700 MHz	3.3 V	± 50 ~ ± 150 ppm	LVPECL		
VXO-1S-DS-6p fundamental	7.0 x 5.0	1.5 MHz to 200 MHz	2.5 V 3.3 V	± 50 ~ ± 100 ppm	LVDS		
VXO-1S-DSM-6p multiplies	7.0 x 5.0	100 MHz to 700 MHz	3.3 V	± 50 ~ ± 100 ppm	LVDS		
VXO-P9-H-6p fundamental	14.0 x 9.0	10 MHz to 200 MHz	2.5 V 3.3 V 5.0 V	± 100 ~ ± 200 ppm	HCMOS / TTL		
VXO-P9-PE-6p fundamental	14.0 x 9.0	19.44 MHz to 200 MHz	2.5 V 3.3 V	± 100 ~ ± 200 ppm	LVPECL		
VXO-P9-PEM-6p multiplies	14.0 x 9.0	60 MHz to 700 MHz	3.3 V	±100 ~ ± 150 ppm	LVPECL		
VXO-P9-DS-6p fundamental	14.0 x 9.0	19.44 MHz to 200 MHz	2.5 V 3.3 V	± 100 ~ ± 200 ppm	LVDS		
VXO-P9-DSM-6p multiplies	14.0 x 9.0	60 MHz to 700 MHz	3.3 V	± 100 ~ ± 150 ppm	LVDS		
VXO-P9-PEH-6J harmonics low phase noise	14.0 x 9.0	100 MHz to 800 MHz	2.5 V 3.3 V	± 50 ~ ± 100 ppm	LVPECL		
VXO-P9-DSH-6J harmonics low phase noise	14.0 x 9.0	100 MHz to 800 MHz	2.5 V 3.3 V	± 50 ~ ± 100 ppm	LVDS		



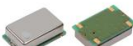

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Voltage Controlled Crystal Oscillator




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Surface-Mounted Type

Type	Package Size	Frequency Range	Supply Voltage	Pulling Range	Output Signal	Package Type
	[mm]	[MHz]	[V]	[ppm]		
VXO-SM-4J	14.0 x 9.8 plastic moulded with J-lead	1.5 MHz to 70 MHz	3.3 V 5.0 V	± 50 ~ ± 100 ppm	HCMOS / TTL	
VXO-SK-H-4p fundamental or harmonics	20.0 x 12.5	10 MHz to 200 MHz	3.3 V 5.0 V	± 50 ~ ± 100 ppm	HCMOS / TTL	
VXO-SK-S-4p fundamental or harmonics	20.0 x 12.5	10 MHz to 400 MHz	3.3 V 5.0 V	± 50 ~ ± 100 ppm	sine wave	
VXO-SW-H-5p fundamental or harmonics	21.3 x 18.1	10 MHz to 800 MHz	3.3 V 5.0 V	± 50 ~ ± 200 ppm	HCMOS sine wave 0 dB	

Through Hole Type

Type	Package Size	Frequency Range	Supply Voltage	Pulling Range	Output Signal	Package Type
	[mm]	[MHz]	[V]	[ppm]		
VX6-H/T	DIL 8 / 4 pin 13.2 x 13.2	1.5 MHz to 160 MHz	3.3 V 5.0 V	± 50 ~ ± 300 ppm	HCMOS / TTL	
VX7-H/T	DIL 14 / 4 pin 20.8 x 13.2	1.5 MHz to 160 MHz	3.3 V 5.0 V	± 50 ~ ± 300 ppm	HCMOS / TTL	
VX7-PE Fundamental or multiplier	DIL 14 / 4 pin 20.8 x 13.2	19.44 MHz to 650 MHz	3.3 V 5.0 V	± 50 ~ ± 100 ppm	PECL	

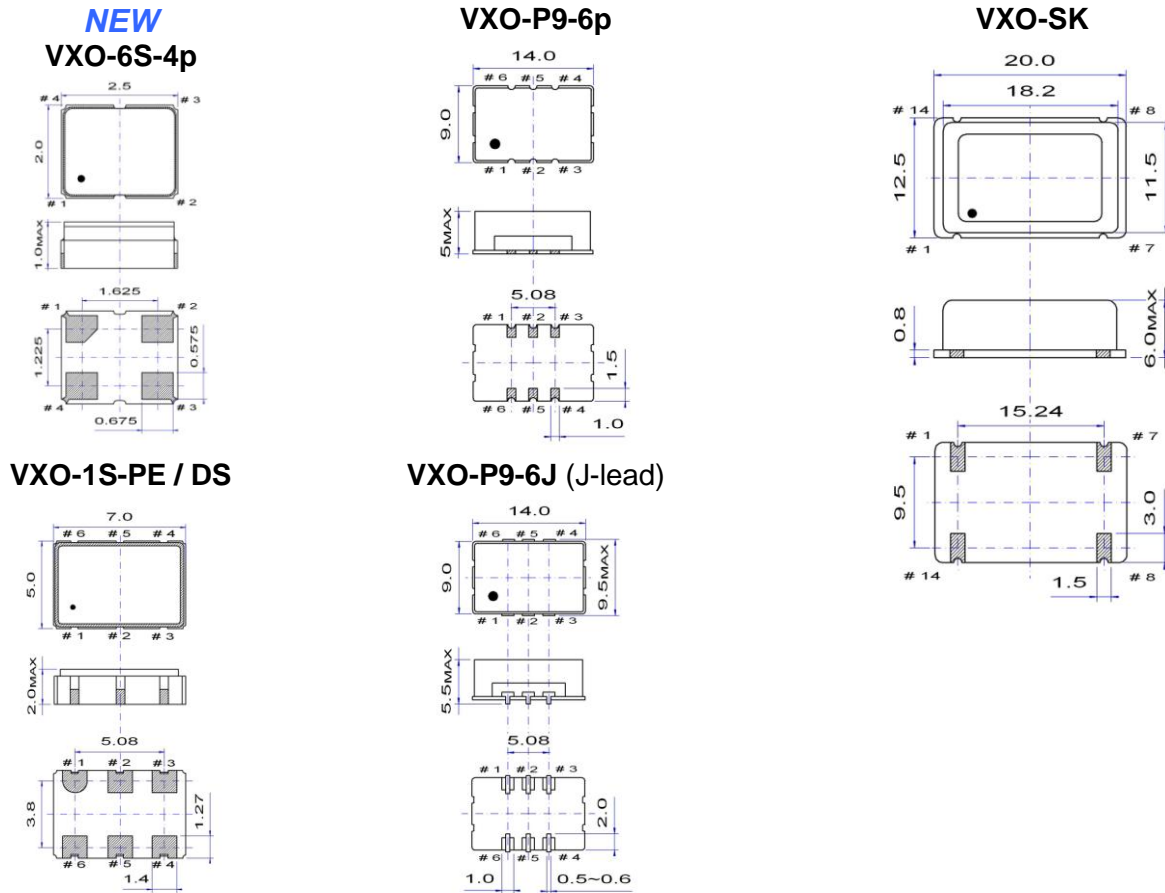
General parameters

Frequency stability	±25 ppm to ±50 ppm all inclusive	
All inclusive:	vs. temperature, tolerance, ageing, supply & load change	
pulling range	± 50 ~ ± 300 ppm	
pulling linearity	10 % max.	
jitter (rms)	for fundamental & harmonic type for multiply type	< 1 ps at 12 kHz ~ 20 MHz from carrier frequency < 3 ps at 12 kHz ~ 20 MHz from carrier frequency
operating temperature range	-20 ~ +70 °C commercial application -40 ~ +85 °C industrial application	
storage temperature range	-55 ~ +125 °C	
packaging units for SMD type	tape & reel	500 or 1'000 pieces
packaging units for through hole type	tube tray	25 pieces 50 pieces

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Surface-Mounted Package



Required specification for quotation request			Units	Example
Type				VXO-P9-3PEH-6p
nominal frequency			MHz	491.520 MHz
frequency stability (all inclusive): stability vs. temperature, tolerance @ +25 °C, aging, supply & load variation			ppm	±50 ppm
operating temperature range			°C	-20 to +75 °C
supply voltage			V	3.3 V
output signal				LVPECL
Output load	HCMS / TTL	15 pF	pF	
	LVPECL	50 Ω @ Vdc - 2 V or 50 Ω @ +1.3 V	Ω	50 Ω @ +1.3 V
	LVDS	100 Ω	Ω	
special output load on request				
frequency control range			ppm	> ±50 ppm
voltage control (Vc)			V	+1.65 V ±1.35 V
enable / disable function		[yes or no]		Pin # 2
phase noise			dBc/Hz	< -120 dBc/Hz @ 1 kHz < -133 dBc/Hz @ 10 kHz < -140 dBc/Hz @ 100 kHz