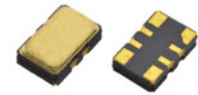


High Stability SMD VCXO

10.0MHz to 52.0MHz

- High stability VCXO, ± 0.1 ppm over -10° to $+70^{\circ}\text{C}$
- Suitable for base stations (Femtocell) requiring high stability
- Output HCMOS or clipped sine wave available
- Exceptionally good value for close-to OCXO performance
- Low power use, 4mA for HCMOS, 2.4mA max for clipped sine
- Lower phase noise available by external capacitor



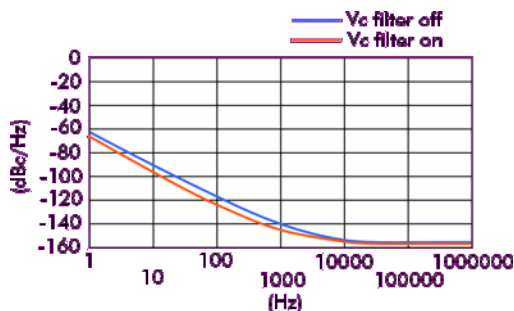
DESCRIPTION

XOVN-9000B series VCXOs are ceramic SMD VCXOs packaged in an the industry-standard, ultra-miniature 3.2 x 2.5mm package. This VCXO exhibits exceptionally high frequency stability performance and provides cost-effective high performance, comparable to OCXO.

SPECIFICATION

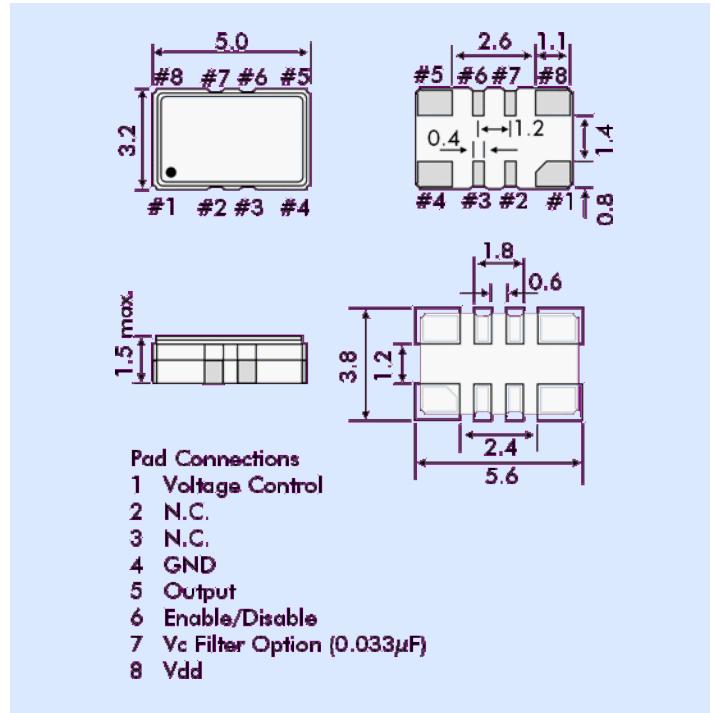
Product Series Code:	XOVN-9000B
Frequency Range:	10.0MHz to 52.0MHz
Output Waveform:	HCMOS (code CM) Clipped Sine Wave (code CS)
Operating Conditions	
Operating Temperature:	-40° to $+85^{\circ}\text{C}$
Storage Temperature:	-40° to $+85^{\circ}\text{C}$
Input Voltage:	$+2.7\text{V}$ to $+5.5\text{VDC}$
Frequency Tolerance:	± 1.5 ppm max. (at 25°C ambient, after reflow)
Temperature Stability:	± 0.1 ppm over -10° to $+50^{\circ}\text{C}$ ± 0.4 ppm over -40° to $+85^{\circ}\text{C}$ ± 0.05 ppm max. at $\text{VDD} \pm 5\%$
Voltage Coefficient:	± 0.05 ppm max. at $\text{VDD} \pm 5\%$
Load Coefficient:	± 0.05 ppm max. Load $\pm 10\%$
Ageing:	± 0.5 ppm max. at $25^{\circ}\text{C} \pm 3^{\circ}\text{C}$ for first year
Output Load	
HCMOS output:	15pF maximum
Clipped Sine Wave output:	10k Ω /10pF
Output Level	
Clipped sine wave:	0.8Vp-p min.
HCMOS:	'0' Level: Vol: 10% Vdd max. '1' Level: Voh: 90% Vdd min.
Symmetry:	45/55%
Rise and fall times:	5ns max.
Input current	
HCMOS:	4.0mA max. (no load)
Clipped Sine Wave:	2.4mA max. $f_0 = 19.2\text{MHz}$, $\text{Vdd} = 3.3\text{V}$
Frequency Controlled Range:	± 3 ppm to ± 15 ppm $\text{Vcon} = +1.5\text{V} \pm 1.0\text{V}$ Positive slope
Standard Frequencies:	10.0, 12.8, 13.0, 16.0, 19.2, 20.0, 24.576, 25.0, 26.0, 27.0, 40.0 and 50.0MHz.

PHASE NOISE CHARACTERISTICS



An additional external capacitor (0.033 μF) connected between terminals 7 and 4 (Gnd) provides lower phase noise characteristics.

XOVN-9000B - OUTLINES AND DIMENSIONS



PART NUMBERING PROCEDURE

Example: **XOVN-9000B-CS-3.3V-KK2-gii-EF-14.7456M**

Code	Output Waveform
CS	Clipped Sine Wave
CM	HCMOS

Input Voltage
3.0V to 5.0V $\pm 10\%$

Code	Temperature Stability
KK2	± 0.1 ppm
LL2	± 0.15 ppm
MM2	± 0.2 ppm
PP2	± 0.25 ppm
QQ2	± 0.3 ppm
RR2	± 0.35 ppm
SS2	± 0.4 ppm

Operating Frequency
10.0 to 52.0MHz

Code	Vc Filter Option
EF	With external filter
Non	Without external filter

Code	Temperature Range $^{\circ}\text{C}$	Stability
gee	-10 to $+50$	KK2
ggg	-10 to $+60$	or LL2
gii	-10 to $+70$	
gjj	-10 to $+75$	MM2
iii	-20 to $+70$	PP2
lij	-20 to $+75$	QQ2
kii	-30 to $+75$	RR2
kkk	-30 to $+80$	or SS2
lll	-35 to $+80$	
ml	-40 to $+85$	