

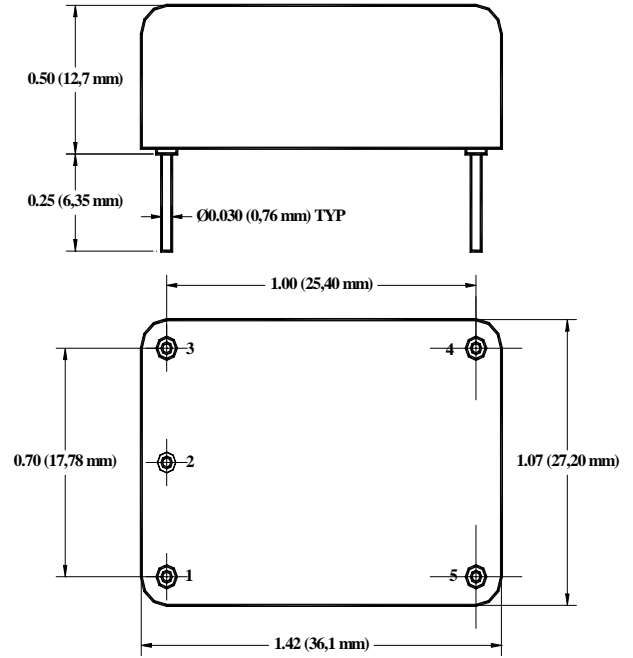
**Rev. A**

**OE-X8GXXXXX Series  
HF/UHF OCXO Low Power**

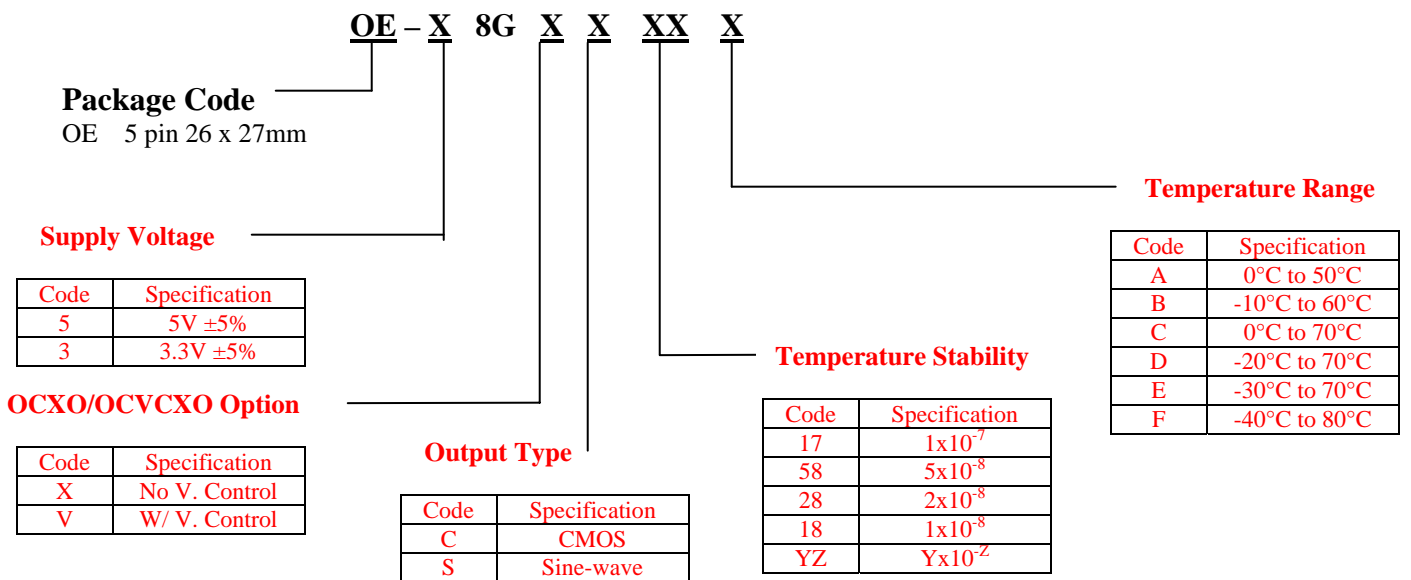
**Description:** The OE-X8GXXXXX Series of Oven Controlled Crystal Oscillators (OCXO) provides High and Ultra High Frequency with SC-cut stability performance, extremely low phase noise and power consumption, with variety of different output types in a standard 1.4x1” package – “Europack”.

**Features**

- **Very Low Power Consumption**
- **Very Low Phase Noise**
- **Excellent SC-cut Frequency Stability**
- **Ultra High Frequency – up to 1 GHz**
- **CMOS, Sine-Wave outputs available**
- **Stratum3E available**



**Creating a Part Number**



**FREQUENCY  
CONTROLS, INC.**

357 Beloit Street, P.O. Box 457, Burlington, WI 53105-0457 U.S.A. Phone 262/763-3591 FAX 262/763-2881

Email: [nelsales@nelfc.com](mailto:nelsales@nelfc.com) www.nelfc.com

## OE-X8GXXXXX Series HF/UHF OCXO Low Power

Rev. A

### Specifications

Parameter	Symb	Condition	Min	Typ	Max	Unit	Note
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#### Absolute Maximum Ratings

Input Break Down Voltage	Vcc		-0.5		5.5	V	
Storage temp.	Ts		-40		85	°C	
Contr. Voltage	Vc		-1		9	V	

#### Electrical

Frequency Range	F	CMOS Sine-wave	30 30		200 1,000	MHz		
Input Voltage	Vcc		3.135 4.75	3.30 5.0	3.465 5.25	V	3 5	
Input Current	Icc				90 160	mA	@ 100 MHz, 3.3V @ 622 MHz, 3.3V	
Frequency Stability	ΔF/F	vs. Temperature vs. Vcc aging		±50 ±2 ±0.1 ±0.5		ppb ppb/V ppm/year ppm	See chart First Year 15 years	
Calibration	ΔF/F	As shipped, 25°C		±0.1		ppm		
Load		CMOS Sine	15pF/10KOhm Internally AC-coupled 50 Ohm					
Duty cycle		@50%	45	50	55	%	CMOS	
Rise/Fall time	Tr/Tf	20 to 80 %		3		ns	CMOS	
Logic "1" level	Voh	CMOS	0.9Vcc			V		
Logic "0" level	Vol	CMOS			0.1Vcc	V		
Output power	P	Sinewave Into 50 Ohm	0 4	3 7		dBm	3.3V 5.0V	
Start up time	Ts			2	10	ms		
Phase jitter		1σ		0.4 0.2	1 0.4	ps	100 Hz to 20 MHz 12 KHz to 20 MHz	
Subharmonics		Sine CMOS, Sine		-45	-40 none	dBc	F>250MHz F< 250 MHz	
Spurious					-60	dBc		
Harmonics		Sine-wave		-30	-25	dBc		
SSB Phase Noise		@ 10 Hz @ 100 Hz @ 1 KHz @ 10 KHz @ 100 KHz		-100 -125 -140 -160 -165		dBc/Hz	@ 100 MHz	
SSB Phase Noise		@ 10 Hz @ 100 Hz @ 1 KHz @ 10 KHz @ 100 KHz		-80 -100 -120 -145 -150		dBc/Hz	@ 622 MHz; Sine	
Input Impedance			> 10KOhm					
Control voltage	Vc		0		3.3	V		
Modulation bandwidth	MB		100 Hz				Contact Factory for wider MB	
Deviation		Vc=0V to 3.3V,25°C	±0.5	±1.0		ppm		



Rev. A

**OE-X8GXXXXX Series  
HF/UHF OCXO Low Power***Environmental and Mechanical*

<b>Operating temp. range</b>	0°C to 70°C , -40°C to 85°C, see chart, page 1
<b>Mechanical Shock</b>	Per MIL-STD-202, Method 213, Cond. E
<b>Thermal Shock</b>	Per MIL-STD-883, Method 1011, Cond. A
<b>Vibration</b>	Per MIL-STD-883, Method 2007, Cond. A
<b>Soldering Conditions</b>	260°C for 10 s leads only
<b>Hermetic Seal</b>	Leak rate less than $5 \times 10^{-8}$ atm.cc/s of helium

*Electrical Connections*

<b>Pin Out</b>	Pin #1- Voltage Control ; Pin #2 – Vref ; Pin #3 – Vcc; Pin#4 – Output, CMOS or Sine; Pin#5 - GND
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