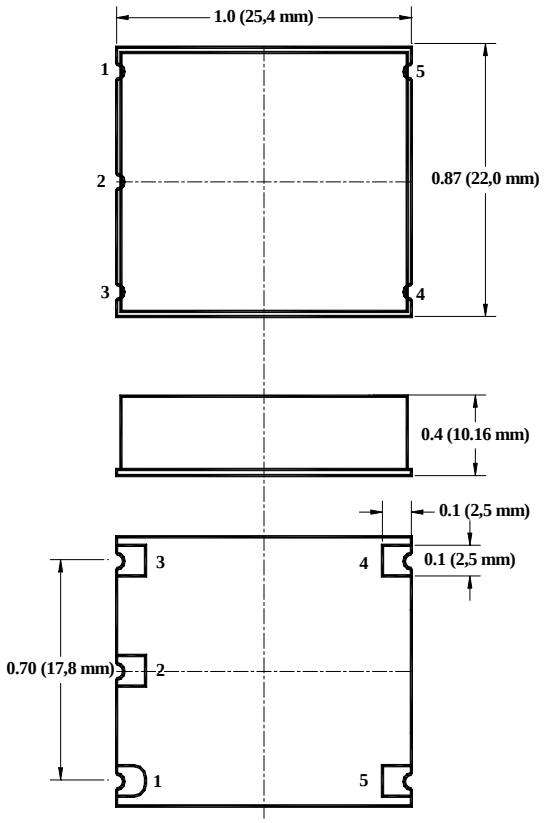
OF-XBAXXXX Series
UHF SMD TCVCXO

Rev. B

Description: The OF-XBAXXXX Series of SMD temperature compensated, voltage controlled crystal oscillators (TCVCXO), provides Ultra High Frequency with excellent temperature stability, low phase noise in a small surface mount FR4 based package.

Features

- **Small, Low Profile SMD Package**
- **Low Phase Jitter and Phase Noise**
- **Excellent Frequency Stability**
- **Ultra High Frequency – up to 2.5 GHz**
- **Sine-Wave output**
- **Stratum3 available**



Creating a Part Number

OF - X BA X XX X

Package Code
OF 5 Pad 25x22mm SMD

Supply Voltage

Code	Specification
0	5V ±5%
A	3.3V ±5% *

TCXO/TCVCXO Option

Code	Specification
X	No V. Control
V	W/ V. Control

Temp. Frequency Stability

Code	Specification
1	±1.0 ppm
2	±2.5 ppm
3	±0.28 ppm

Temperature Range

Code	Specification
E	-10°C to 60°C
B	0°C to 70°C
C	-20°C to 70°C
D	-40°C to 85°C

NEL 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

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OF-XBAXXXX Series
UHF SMD TCVCXO

Rev. B

Specifications

Parameter	Symb	Condition	Min	Typ	Max	Unit	Note
Absolute Maximum Ratings							
Input Break Down Voltage	Vcc		-0.5		5.5	V	
Storage temp.	Ts		-40		105	° C	
Contr. Voltage	Vc		-1		9	V	
Electrical							
Frequency Range	F		1.0		2.5	GHz	
Input Voltage	Vcc		3.135 4.75	3.30 5.0	3.465 5.25	V	3* 5
Input Current	Icc	+3dBm Output			100	mA	
Frequency Stab.	ΔF/F	Overall, available			±4.6		20 years
Frequency Stability	ΔF/F	vs. Temperature vs. Vcc aging		±0.5 ±0.1 ±1 ±3.5	±1	ppm ppm/V ppm/year ppm	See chart First Year 10 years
Calibration	ΔF/F	As shipped, 25ºC		±0.5	±1	ppm	
Load			Internally AC-coupled 50 Ohm				
Output power	P	Into 50 Ohm	0	3		dBm	Higher Power available, consult factory
Start up time	Ts			2	10	ms	
Jitter		12KHz to 20MHz, RMS			1.0	ps	
Subharmonics					none		
Spurious					-60	dBc	
Harmonics		Sine-wave		-20	-12	dBc	
SSB Phase Noise		@100 Hz @1 KHz @10 KHz @100 KHz		-80 -95 -100 -120		dBc/Hz	@1,000 MHz
SSB Phase Noise		@100 Hz @1 KHz @10 KHz @100 KHz		-75 -90 -98 -115		dBc/Hz	@2,000 MHz
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	±5	±7		ppm	

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Rev. B

Environmental and Mechanical

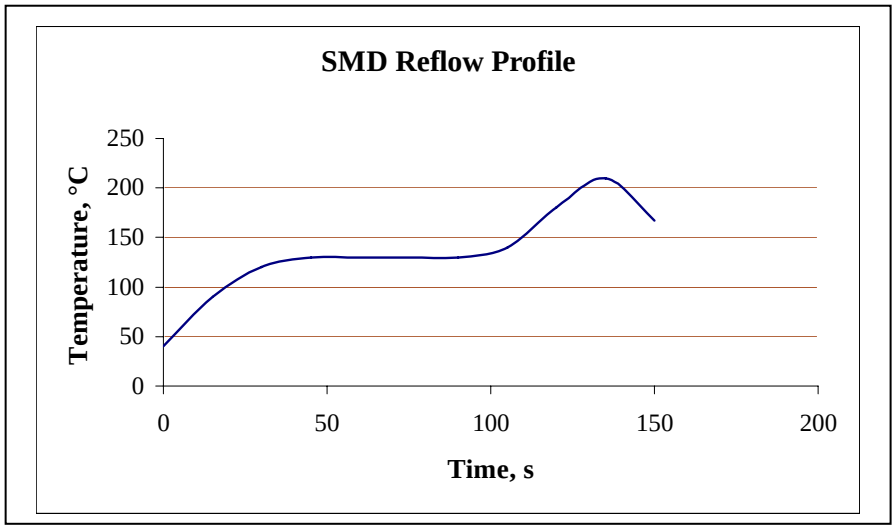
Operating temp. range	0°C to 70°C , -40°C to 85°C, see chart, page 1
Mechanical Shock	Per MIL-STD-202, Method 213, Cond. E
Thermal Shock	Per MIL-STD-883, Method 1011, Cond. A
Vibration	Per MIL-STD-883, Method 2007, Cond. A
Soldering Conditions	See MAX reflow profile
Hermetic Seal	Leak rate less than $1x10^{-8}$ atm.cc/s of helium (crystal only)

Electrical Connections

Pin Out	Pin #1- Voltage Control ; Pin #2 – N/C ; Pin #3 – Vcc; Pin#4 – Output; Pin #5 – GND

* Note: 3.3V supply is not available for all frequencies and performance. Please consult factory

Maximum solder reflow profile



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