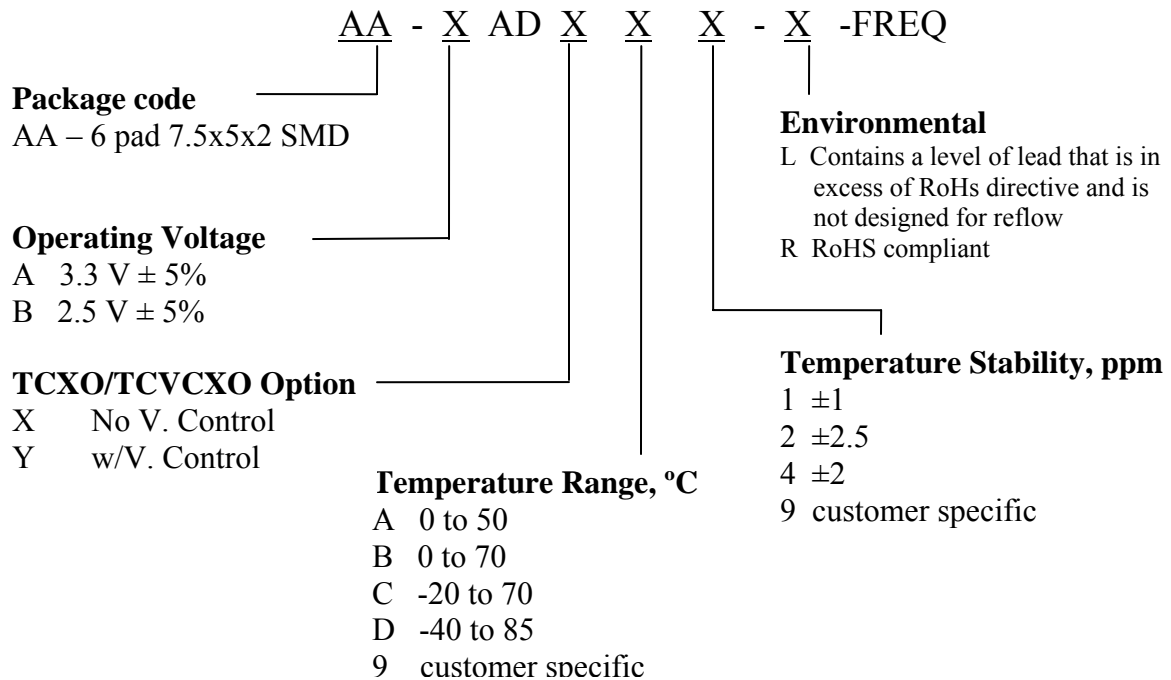


# LVDS TCXO/TCVCXO AA-XADXXX-X Series

## Description

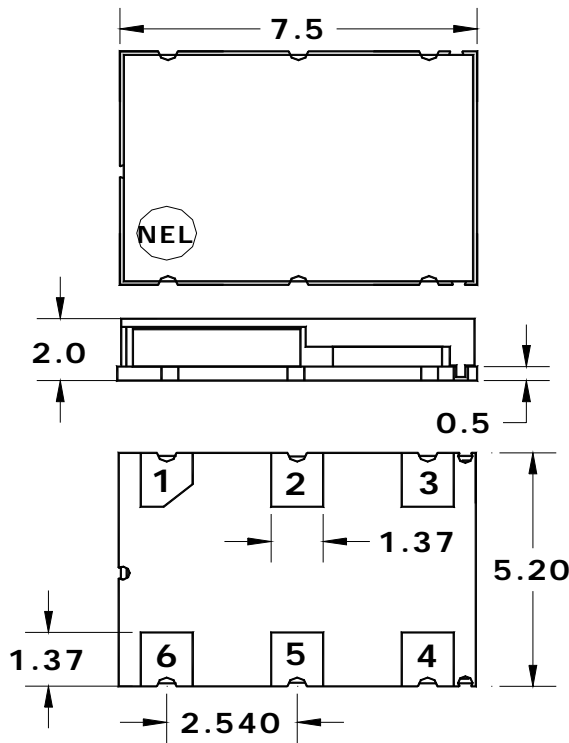
The **AA-XADXXX Series** of quartz crystal oscillators provide excellent temperature stability with LVDS complementary outputs and very low phase noise. The device is packaged in a miniature, low profile leadless FR4 based package with gold plated pads, which enhances compatibility with PCB material. COTS/Dual use.

## Creating a Part Number



# LVDS TCXO AA-XADXX-X Series

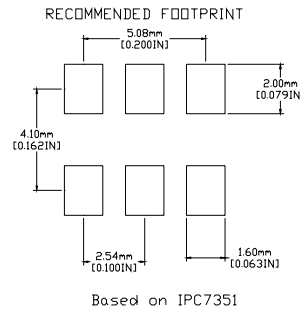
## Drawing Specification



### Pin Connections:

- 1 – N/C or Vc
- 2 – N/C
- 3 – GND
- 4 – OUT
- 5 – Complementary OUT
- 6 – Vcc

Dimensions are typical in mm



## Absolute Maximum Ratings

Parameter	Symbol	Value	Unit
Operating Temperature Range	To	-40 to +85	°C
Storage Temperature Range	Tst	-50 to +90	°C
Supply Voltage	Vcc	-0.5 to 4.5	V
Voltage Control	Vc	0 to Vcc	V



# LVDS TCXO

## AA-XADXX-X Series

### Electrical Parameters

Parameter	Symb	Conditions, Note	MIN	TYP	MAX	Unit	
Nominal Frequency	Fo		12.8		120	MHz	
Supply Voltage	Vcc	Code A Code B	3.135 2.375	3.3 2.5	3.465 2.625	V	
Supply current	Icc			40	50	mA	
Load		At receiving end between the outputs	90	100	110	Ohm	
Output Levels	Vod	Differential amplitude	247	330	454	mV	
		Amplitude error			50	mV	
	Vof	Offset Voltage	1.125	1.25	1.375	V	
		Offset voltage error			50	mV	
Duty Cycle (Symmetry)		At outputs crossing, room temperature	45/55	50/50	55/45	%	
Rise/Fall Time	Tr/Tf	20 to 80, 80 to 20 %		0.35	0.4	ns	
<b>Jitter</b>	Integrated	J	Integrated from Phase Noise, 12 KHz to 20 MHz , RMS			0.2	ps
			Wavecrest characterized	Random period,		2.5	
	Accumul. pk-to-pk			20			ps
			Deterministic	F>40MHz		3	6
Sub-harmonics			<40 M >40 M		-50 -45		dBc
Phase Noise	£(Δf)	20 MHz	@ 10 Hz @100 Hz @1 KHz @10KHz @100KHz @>1MHz		-85 -115 -135 -140 -145 -148		dBc/Hz
Frequency stability	ΔF/F	Over Temp -30 to 80 C See chart Aging, 1 <sup>st</sup> year Aging 10 years Load Vcc Reflow Calibration as shipped		2.5		1 3.5 0.1 0.1/V 2 1	ppm
Pullability (Vc option)		0.3V to 3.0V	5				ppm



Rev. H

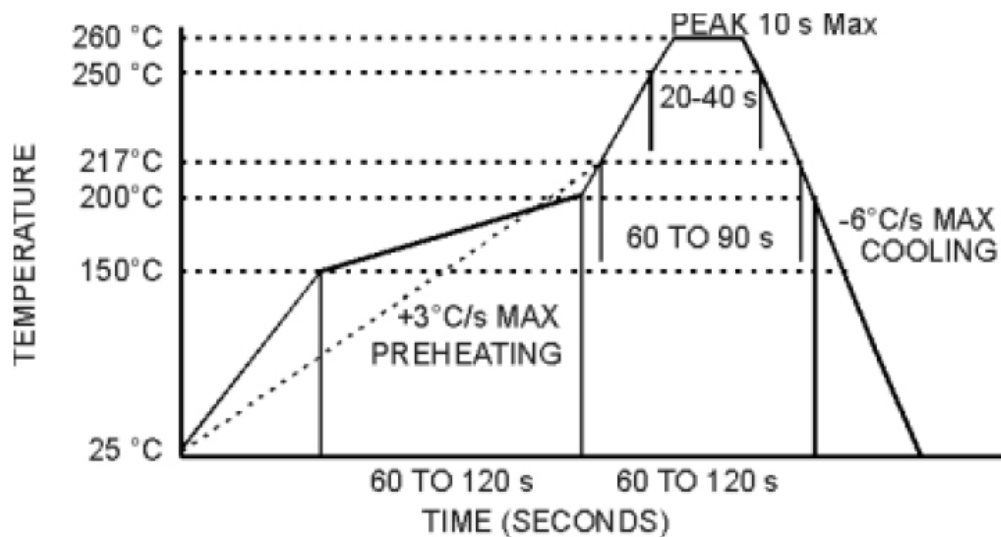
# LVDS TCXO

## AA-XADXX-X Series

### Environmental and Mechanical Characteristics

<b>Operating temp. range</b>	see part # table
<b>Mechanical Shock</b>	Per MIL-STD-202, Method 213, Cond. A
<b>Thermal Shock</b>	Per MIL-STD-883, Method 1011, Cond. A
<b>Vibration</b>	Per MIL-STD-883, Method 2007, Cond. A
<b>Hermetic Seal</b>	Leak rate less than $1 \times 10^{-8}$ atm.cc/s of helium
<b>Soldering conditions</b>	See MAX reflow profile below; The device may be reflowed once. Reflowing upside down is not allowed. NO CLEAN assembly is recommended

### MAX Reflow Profile



The device may be reflowed once. Reflowing upside down is not allowed. NO CLEAN assembly is recommended



**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