

# 5.0x7.0mm Surface Mount LVDS Clock Oscillator Series



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## Description

The Connor Winfield Lxxx - Series is a 5x7.5mm Surface Mount, LVDS, Fixed Frequency Crystal Controlled Oscillator (XO) designed for applications requiring tight frequency stability, wide temperature range and low jitter. Operating at 2.5V or 3.3V supply voltage, the Lxxx - Series provides an LVDS Differential Outputs with enable / disable function. The surface mount package is designed for high-density mounting and is optimum for mass production.



## Features:

### Model Lxxx - Series

5.0 x7.0mm Surface Mount Package

2.5V or 3.3V Operation

LVDS Output Logic

Frequency Stabilities Available:

L14x / L24x / L34x / L44x: +/-20ppm

L11x / L21x / L31x / L41x: +/-25ppm

L12x / L22x / L32x / L42x: +/-50ppm

L13x / L23x / L33x / L43x: +/-100ppm

Temperature Ranges Available:

L1xx Series: 0 to 70°C

L2xx Series: -40 to 85°C

L3xx Series: 0 to 85°C

L4xx Series: -20 to 70°C

Low Jitter <1pS RMS

Tri-State Enable/Disable on Pad 1 or 2

Tape and Reel Packaging

RoHS Compliant / Lead Free

## Model Specifications

### Absolute Maximum Ratings

Table 1.0

Parameter	Units	Minimum	Nominal	Maximum	Units	Note
Storage Temperature		-55	-	125	°C	
Supply Voltage	(Vcc)	-0.5	-	4.6	Vdc	
Input Voltage		-0.5	-	Vcc+0.5	Vdc	

### Operating Specifications

Table 2.0

Parameter		Minimum	Nominal	Maximum	Units	Note
Center Frequency	(Fo)	19.44	-	260	MHz	
Total Frequency Tolerance		(See Table 9 for full part number)				
Model Lx4x	(See Table 9)	-20	-	20	ppm	1
Model Lx1x	(See Table 9)	-25	-	25	ppm	1
Model Lx2x	(See Table 9)	-50	-	50	ppm	1
Model Lx3x	(See Table 9)	-100	-	100	ppm	1
Operating Temperature Range						
Model L1xx	(See Table 9)	0	-	70	°C	
Model L3xx	(See Table 9)	0	-	85	°C	
Model L2xx	(See Table 9)	-40	-	85	°C	
Model L4xx	(See Table 9)	-20	-	70	°C	
Supply Voltage	(Vcc)					
Model Lxx2	E/D Pad 1 (See Table 9)	2.375	2.500	2.625	Vdc	
Model Lxx3	E/D Pad 1 (See Table 9)	3.135	3.3	3.465	Vdc	
Model Lxx4	E/D Pad 2 (See Table 9)	2.375	2.500	2.625	Vdc	
Model Lxx5	E/D Pad 2 (See Table 9)	3.135	3.3	3.465	Vdc	
Supply Current	(Icc)	-	45	65	mA	
Period Jitter		-	3	5	ps RMS	
Phase Jitter (BW=12kHz to 20MHz)		-	0.5	1	ps RMS	
SSB Phase Noise at 10Hz offset		-	-60	-	dBc/Hz	
SSB Phase Noise at 100Hz offset		-	-90	-	dBc/Hz	
SSB Phase Noise at 1KHz offset		-	-125	-	dBc/Hz	
SSB Phase Noise at 10KHz offset		-	-140	-	dBc/Hz	
SSB Phase Noise at 100KHz offset		-	-145	-	dBc/Hz	

### Input Characteristics

Table 3.0

Parameter		Minimum	Nominal	Maximum	Units	Note
Disable Input Voltage (Low)	(Vil)	-	-	0.3Vcc	Vdc	2
Enable Input Voltage (High)	(Vih)	0.7Vcc	-	-	Vdc	2
Enable Time		-	-	500	us	
Disable Time		-	-	200	ns	
Standby Current (when part is Disabled)	(Icc)	-	-	30	uA	

### LVDS Output Characteristics

Table 4.0

Parameter		Minimum	Nominal	Maximum	Units	Note
LOAD		-	-	100	Ohms	
Output Differential Voltage	(Vod)	250	-	450	mV	3
Output Swing (Differential Output peak to peak)	(Vopp)	500	700	900	mV	
Duty Cycle measured at 50%		45	50	55	%	4
Differential Rise / Fall Time 20% to 80%		-	0.3	0.7	ns	

### Package Characteristics

Table 5.0

Package	Hermetically sealed ceramic package and metal cover.
Soldering Process	RoHS compliant, lead free, see solder profile on page 2.

Specifications subject to change without notice. All dimensions in inches. © Copyright 2007 The Connor-Winfield Corporation



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