



Surface Mount LVPECL Clock Oscillator Model Pxxx Series

CONNOR WINFIELD



Description:

The Connor Winfield Pxxx Series are 5.0x7.0mm Surface Mount, LVPECL, 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 Pxxx Series provides an LVPECL Differential Outputs with enable / disable function. The surface mount package is designed for high-density mounting and is optimum for mass production.



Features:

- 5.0 x7.0mm Surface Mount Package
- 2.5V or 3.3V Operation
- LVPECL Differential Outputs
- Frequency Stabilities Available:
+/-20ppm, +/-25ppm, +/-50ppm, +/-100ppm
- Temperature Ranges Available:
0 to 70°C, -40 to 85°C, 0 to 85°C, -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

Absolute Maximum Ratings

Parameter	Minimum	Nominal	Maximum	Units	Notes
Storage Temperature	-55	-	125	°C	
Supply Voltage (Vcc)	-0.5	-	5.0	Vdc	
Input Voltage (Vc)	-0.5	-	Vcc + 0.5	Vdc	

Operating Specifications

Parameter	Minimum	Nominal	Maximum	Units	Notes
Output Frequency (Fo)	25	-	312.5	MHz	
Total Frequency Tolerance	(See Ordering Information for full part number)				
Model Px4x	-20	-	20	ppm	1
Model Px1x	-25	-	25	ppm	1
Model Px2x	-50	-	50	ppm	1
Model Px3x	-100	-	100	ppm	1
Operating Temperature Range					
Model P1xx	0	-	70	°C	2
Model P2xx	-40	-	85	°C	
Model P3xx	0	-	85	°C	
Model P4xx	-20	-	70	°C	
Supply Voltage (Vcc)					
Model Pxx2, Pxx5	2.375	2.5	2.625	Vdc	
Model Pxx3, Pxx4	3.135	3.3	3.465	Vdc	
Supply Current (Icc)	-	60	90	mA	
Jitter:					
Period Jitter	-	3.0	5.0	ps RMS	
Integrated Phase Jitter (BW = 12 KHz to 20 MHz)					
25 ≤ Fo ≤ 60 MHz	-	1.3	2.0	ps RMS	
60 < Fo ≤ 80 MHz	-	0.80	1.0	ps RMS	
80 < Fo ≤ 100 MHz	-	0.60	0.80	ps RMS	
100 < Fo ≤ 160 MHz	-	0.40	0.50	ps RMS	
160 < Fo ≤ 200 MHz	-	0.30	0.40	ps RMS	
200 < Fo ≤ 312.5 MHz	-	0.20	0.30	ps RMS	
SSB Phase Noise					
@ 10 Hz offset	-	-60	-	dBc/Hz	
@ 100 Hz offset	-	-90	-	dBc/Hz	
@ 1 KHz offset	-	-115	-	dBc/Hz	
@ 10 KHz offset	-	-140	-	dBc/Hz	
@ 100 KHz offset	-	-145	-	dBc/Hz	
Start-Up Time	-	-	2	ms	

Input Characteristics

Parameter	Minimum	Nominal	Maximum	Units	Notes
Enable / Disable Option:					
Models Pxx2, Pxx3 E/D Pad 1. N/C Pad 2					
Models Pxx4, Pxx5 E/D Pad 2. N/C Pad 1					
Enable Input Voltage - (High) - (Vih)	70%Vcc	-	-	Vdc	3
Disable Input Voltage - (Low) - (Vil)	-	-	30%Vcc	Vdc	3
Enable Time	-	-	2	ms	
Disable Time	-	-	200	ns	
Standby Current (When Osc. is disabled)	-	-	30	uA	

LVPECL Output Characteristics

Parameter	Minimum	Nominal	Maximum	Units	Notes
Load	-	50	-	Ohm	4
Voltage (High) (Vcc = 2.5 V) (Voh)	1.475	-	-	V	
(Low) (Vcc = 2.5 V) (Vol)	-	-	0.880	V	
Voltage (High) (Vcc = 3.3 V) (Voh)	2.275	-	-	V	
(Low) (Vcc = 3.3 V) (Vol)	-	-	1.680	V	
Duty Cycle at 50% Level	45	50	55	%	5
Rise / Fall Time: 20% to 80%	-	0.5	1.0	ns	

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