

LVC MOS VCXO Specification Model V803

CONNOR WINFIELD



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Description:

The Connor-Winfield, RoHS compliant, V803 is a 3.3V Voltage Controlled Crystal Oscillator (VCXO) with LVC MOS output and enable/disable function. The V803 is designed for use with applications utilizing a PLL system requiring low jitter and tight frequency stability. The surface mount package is designed for high-density mounting and is optimum for mass production.



Features:

3.3 Vdc Operation
Absolute Pull Range (APR): ± 50 ppm
Temperature Range: 0 to 70°C
Low Jitter: <1ps RMS
LVC MOS Output
5x7 mm SMT Package
Vc has High Input Resistance, Pad 1
Tri-State Enable/Disable, Pad 2
Tape and Reel Packaging
RoHS Compliant / Lead Free

Absolute Maximum Ratings

Parameter	Minimum	Nominal	Maximum	Units	Notes
Storage Temperature	-40	-	85	°C	
Supply Voltage (Vcc)	-0.5	-	4.6	Vdc	
Control Voltage (Vc)	-0.5	-	Vcc + 0.5	Vdc	

Operating Specifications

Parameter	Minimum	Nominal	Maximum	Units	Notes
Center Frequency: (Fo)	27	-	130	MHz	
Operating Temp Range:	0	-	70	°C	
Supply Voltage: (Vcc)	3.135	3.3	3.465	Vdc	
Supply Current : (Icc)	-	-	30	mA	
Jitter:					
Period Jitter	-	3.0	5.0	ps RMS	
Integrated Phase Jitter	-	0.5	1.0	ps RMS	1
Typical SSB Phase Noise @ 74.25 MHz					
@ 10 Hz offset	-	-76	-	dBc/Hz	
@ 100 Hz offset	-	-100	-	dBc/Hz	
@ 1 KHz offset	-	-128	-	dBc/Hz	
@ 10 KHz offset	-	-145	-	dBc/Hz	
@ 100 KHz offset	-	-152	-	dBc/Hz	
@ 1 MHz offset	-	-153	-	dBc/Hz	
Start-Up Time	-	-	10	ms	

Input Characteristics

Parameter	Minimum	Nominal	Maximum	Units	Notes
Control Voltage Range (Vc)	0.3	1.65	3.0	Vdc	
Absolute Pull Range (APR)	± 50	-	-	ppm	2
Monotonic Linearity	-10	-	10	%	
DC Input Impedance	2M	-	-	Ohm	3
Modulation Bandwidth (3dB)	25	-	-	KHz	
Enable Input Voltage (High) (Vih)	2.4	-	-	V	4
Disable Input Voltage (Low) (Vil)	-	-	0.4	V	4

LVC MOS Output Characteristics

Parameter	Minimum	Nominal	Maximum	Units	Notes
Load	-	15	-	pF	
Voltage (High) Voh	2.4	-	-	V	
(Low) Vol	-	-	0.4	V	
Current (High) Ioh	-	-	-4	mA	
(Low) Iol	-	-	4	mA	
Duty Cycle at 50% Level	45	50	55	%	
Rise / Fall Time: 20% to 80%	-	-	2	ns	

Notes:

- BW= 12 KHz to 20 MHz.
- Absolute Pull Range (APR) is the minimum guaranteed pull range of the VCXO under all conditions over lifetime operation including calibration @ 25°C, frequency stability vs. the change in temperature, frequency vs. change in supply voltage, frequency vs. change in load, shock and vibration and 10 years aging. The APR is referenced to (Fo). Positive transfer function.
- Measured from pin 1 to ground.
- Oscillator output is enabled with no connection on pad 2.

Specifications subject to change without notice. All dimensions in inches. © Copyright 2011 The Connor-Winfield Corporation



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Revision **04**
Date **03 May 2013**

