High Frequency SMT 5.0x7.0mm LVPECL VCXO

2111 Comprehensive Drive

Aurora, Illinois 60505

Phone: 630-851-4722

Fax: 630-851-5040

www.conwin.com

US Headquarters
630-851-4722:
European Headquarters:
+353-61-472221

Description

The Connor-Winfield models V752 and V762 are 3.3V, Surface Mount 5.0x7.0mm, Voltage Controlled Crystal Oscillator (VCXO) with LVPECL differential outputs and enable/ disable function. The V752 and V762 are designed for use with applications utilizing a PLL system requiring very high frequency and low jitter. The surface mount package is designed for high-density mounting and is optimum for mass production.

Features

Models: V752 / V762
3.3V Operation
Absolute Pull Range (APR): +/-50ppm
Temperature Range: -40 to 85°C
Differential LVPECL Outputs
Low Jitter 0.3ps RMS Typical
Enable / Disable Function:
Models: V752: Enable Low
Models: V762: Enable High
5.0x7.0mm Surface Mount Package
Tape and Reel Packaging
RoHS Compliant / Lead Free

Specifications

Absolute Maximum Ratings

Parameter	Units	Minimum	Nominal	Maximum	Units	Notes
Storage Temperature		-55	-	125	°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)	25	-	200	MHz	
Operating Temperature Range		-40	-	85	°C	
Supply Voltage	(Vcc)	3.135	3.3	3.465	Vdc	
Supply Current	(Icc)	-	-	100	mA	
Period Jitter RMS		-	3	5	ps rms	
Integrated Phase Jitter (BW=12kHz to 20MHz)		-	0.3	1.0	ps rms	
Typical Phase Noise for 155.52MHz						
SSB Phase Noise at 10Hz offset		-	-60	-	dBc/Hz	
SSB Phase Noise at 100Hz offset		-	-90	-	dBc/Hz	
SSB Phase Noise at 1KHz offset		-	-120	-	dBc/Hz	
SSB Phase Noise at 10KHz offset		-	-140	-	dBc/Hz	
SSB Phase Noise at 100KHz offset		-	-145	-	dBc/Hz	

Input Characteristics

Parameter		Minimum	Nominal	Maximum	Units	Note
Control Voltage Range	(Vc)	0.3	1.65	3.0	Vdc	
Typical Slope (Fo = 155.52MHz @ Vc=1.65V)		-	75	-	ppm/V	
Absolute Pull Range (APR)		±50	-	-	ppm	1
Monotonic Linearity		-10	-	10	%	
DC Input Resistance (Pad 1)		-	60K	-	Ohm	
Modulation Bandwidth (3dB)		25	-	-	KHz	
Model: V752 Enable / Disable Function						
Enable Input Voltage (Low)	(Vil)	-	-	1.68	Vdc	2
Disable Input Voltage (High)	(Vih)	2.275	-	-	Vdc	2
Model: V762 Enable / Disable Function						
Enable Input Voltage (High)	(Vih)	2.275	-	-	Vdc	2
Disable Input Voltage (Low)	(Vil)	-	-	1.68	Vdc	2

LVPECL Output Characteristics

Parameter			Minimum	Nominal	Maximum	Units	Note
LOAD			-	-	50	Ohms	3
Voltage	(High)	(Voh)	2.275	-	-	Vdc	
	(Low)	(Vol)	-	-	1.68	Vdc	
Duty Cycle at 50% Level			45	50	55	%	
Rise / Fall Time 20% to 80%			-	0.6	1.5	ns	

Package Characteristics

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

Notes
1.0 Absolute pull range (APR) is the minimum guaranteed pull range of the VCXO under all conditions over the lifetime operation. Including calibration @ 25°C, frequency vs. change in temperature, frequency vs. change in supply voltage, frequency vs. change in load, shock and vibration and aging for ten years. The APR is referenced to Fo. Positive Transfer Function.
2.0 Outputs are enabled with no connection on pad 2. When oscillator is disabled both outputs are in a high impedance state.
3.0 50 ohm termination into Vcc-2V or Thevein equivalent.

RoHS COMPLIANT

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CONNOR WINFIELD

Ordering Information

V 7	5	2	-	155.52M
Type: LVPECL VCXO 5.0x7.0mm Package	Temperature Range: -40 to 85°C Enable / Disable Function: 5 = Enable = Low 6 = Enable = High	APR and Supply Voltage: 2 = ± 50 ppm 3.3 Vdc		Output Frequency: Frequency Format -xxx.xM Minimum* -xxx.xxxxxxM Maximum* *Amount of numbers after the decimal point. M = MHz

Example: To order an V752 with an output frequency of:
25 MHz = V752-025.0M
44.736 MHz = V752-044.736M
155.52 MHz = V752-155.52M

Enable / Disable Function

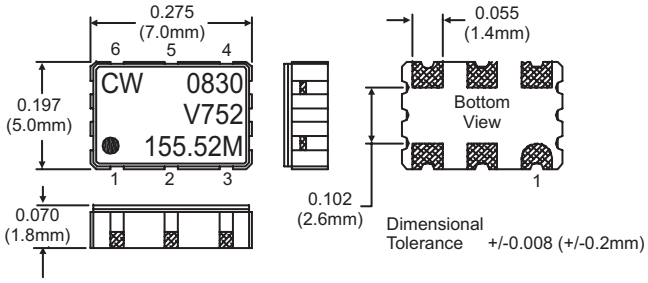
Models: V752

Enable / Disable Function (Pad 2)	Output
No Connection	Enable
Low	Enable
High	Disable (High Impedance)

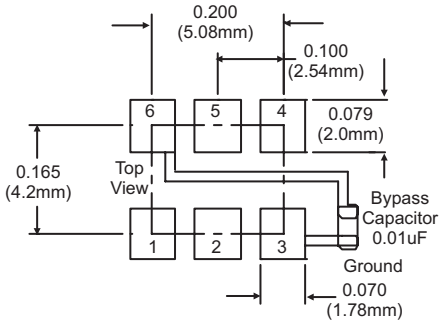
Models: V762

Enable / Disable Function (Pad 2)	Output
No Connection	Enable
High	Enable
Low	Disable (High Impedance)

Package Layout



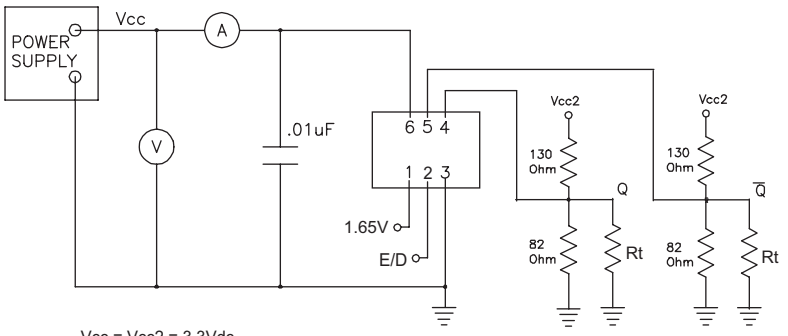
Suggested Pad Layout



Pad Connections

Pad	Pad Connection
1	Control Voltage
2	Enable / Disable
3	Ground (Case)
4	Output Q
5	Output $\overline{Q}$
6	Vcc

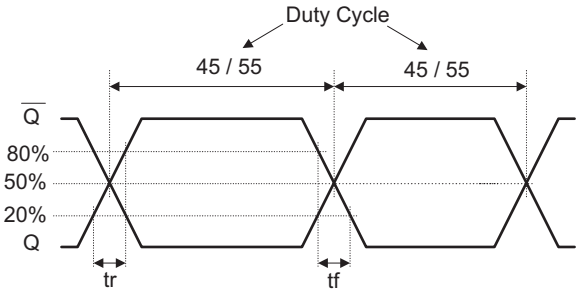
Test Circuit



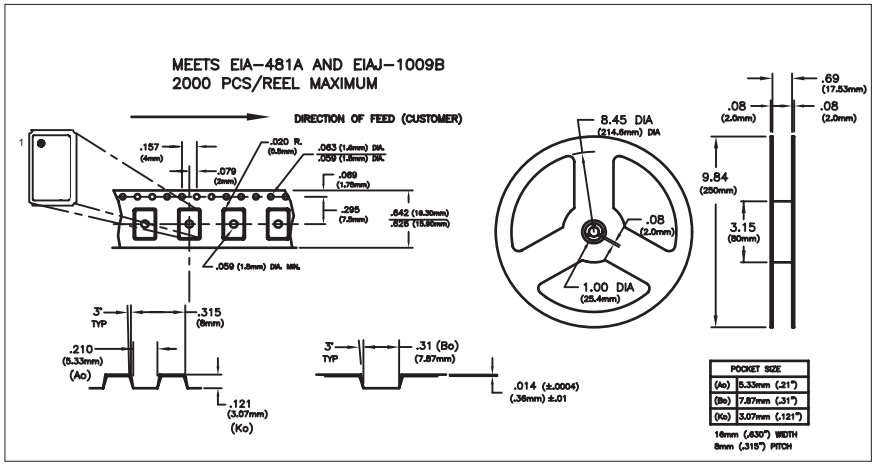
Vcc = Vcc2 = 3.3Vdc

Rt = 1M Ohm Internal Scope termination to GND.

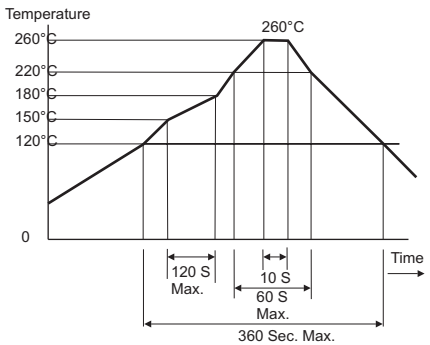
Output Waveform



Tape and Reel Information



Solder Profile



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