

High Frequency 9x14mm Surface Mount LVPECL Clock

CONNOR WINFIELD



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 FPLD54PTE is a fixed frequency, surface mount Crystal Controlled Oscillator (XO) designed for applications requiring low jitter and a ± 20 ppm overall frequency stability. Operating at 3.3V supply voltage, the FPLD54PTE provides LVPECL Differential Outputs with Enable/Disable function.



Features:

Model: FPLD54PTE

Frequency Range: 0.9 to 1.1 GHz

3.3V Operation

LVPECL Outputs

Frequency Stability: ± 20 ppm

Temperature Range: 0 to 70°C

Low Jitter: < 1.0 ps

Surface Mount Package

Tape and Reel Packaging

RoHS Compliant / Lead Free

Specifications

Absolute Maximum Ratings

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

Operating Specifications

Parameter		Minimum	Nominal	Maximum	Units	Note
Center Frequency	(Fo)	0.9	1.0	1.1	GHz	
Total Frequency Tolerance		-20	-	20	ppm	1
Operating Temperature Range		0	-	70	°C	
Supply Voltage	(Vcc)	3.135	3.3	3.465	Vdc	
Supply Current	(Icc)	-	60	90	mA	
Period Jitter		-	-	20	ps rms	
Phase Jitter (BW=12kHz to 20MHz)		-	-	0.6	ps rms	
SSB Phase Noise at 10Hz offset		-	-50	-	dBc/Hz	
SSB Phase Noise at 100Hz offset		-	-80	-	dBc/Hz	
SSB Phase Noise at 1KHz offset		-	-100	-	dBc/Hz	
SSB Phase Noise at 10KHz offset		-	-105	-	dBc/Hz	
SSB Phase Noise at 100KHz offset		-	-110	-	dBc/Hz	

Input Characteristics

Parameter		Minimum	Nominal	Maximum	Units	Note
Disable Input Voltage (Low)	(Vil)	-	-	0.8	Vdc	2
Enable Input Voltage (High)	(Vih)	2.0	-	-	Vdc	2

LVPECL Output Characteristics

Parameter		Minimum	Nominal	Maximum	Units	Note
LOAD		-	-	50	Ohms	3
Voltage (High)	(Voh)	2.12	-	-	Vdc	
(Low)	(Vol)	-	-	1.99	Vdc	
Output Voltage (peak –peak level)		0.405	-	1.076	V	
Duty Cycle		45	50	55	%	4
Rise / Fall Time 20% to 80%		-	-	0.4	ns	5
Start up Time		-	-	5	ms	

Package Characteristics

Package	Non-Hermetical package consisting of an FR4 substrate with grounded metal cover.
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Process Recommendations

Soldering Process	RoHS compliant, lead free. See solder profile on page 2.
Wash	Ultrasonic cleaning is not recommended.

Notes

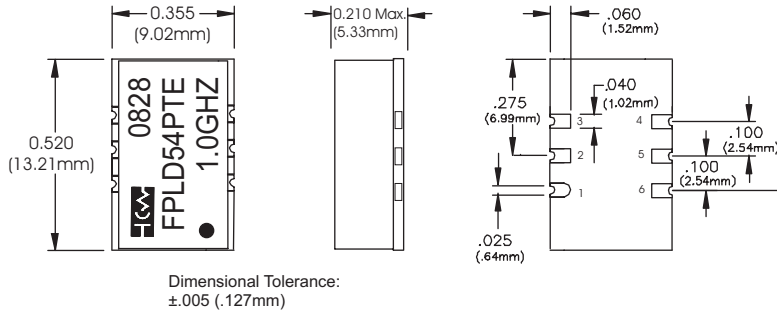
- Includes calibration @ 25°C, frequency stability vs. temperature, supply and load variations, shock, vibration and 20 years aging.
- When the oscillator is disabled, the outputs are at High Impedance. Output is enabled with no connection on pad 1.
- Output must be terminated into 50 ohms to Vcc – 2V or Thevenin equivalent.
- Duty Cycle measured at 50% of output swing.
- Rise and fall times measured 20% to 80% of the total output voltage swing.

Specifications subject to change without notice. All dimensions in inches. © Copyright 2008 The Connor-Winfield Corporation

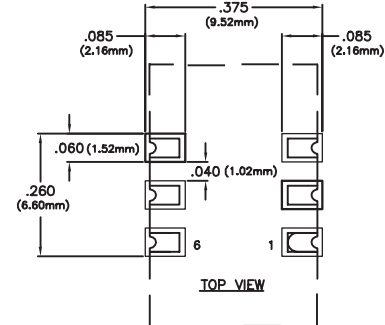


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Package Outline



Suggested Pad Layout



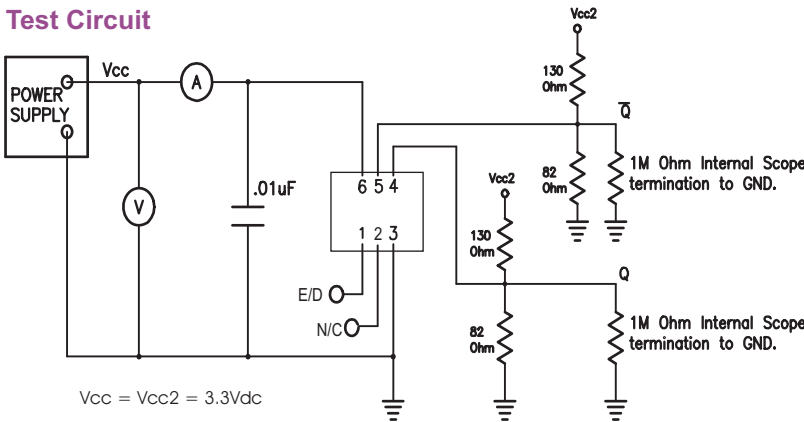
Enable / Disable Function

Enable / Disable Function (Pad 1)	Output
High or Open	Enable
Low	Disable (High Impedance)

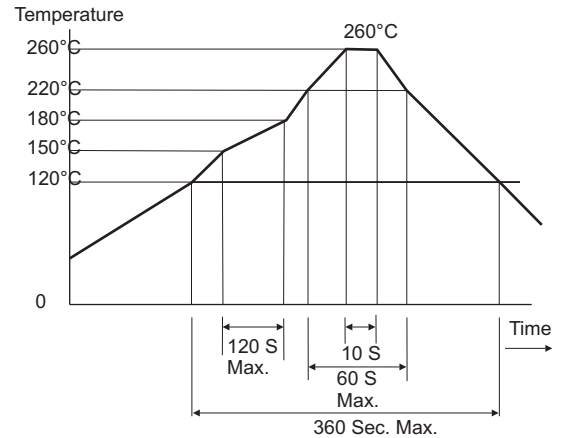
Pad Connections

Pad	Connection
1	Enable / Disable
2	N/C
3	Ground
4	Q Output
5	\bar{Q} Output
6	Vcc

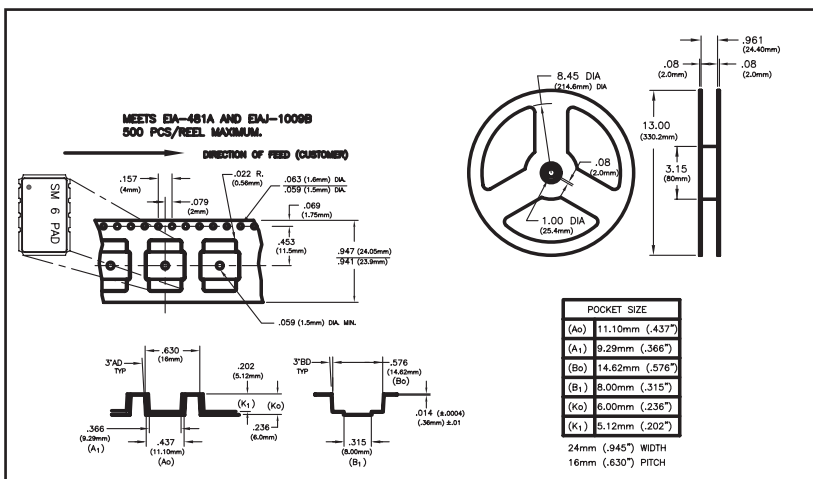
Test Circuit



Solder Profile



Tape and Reel Information



Ordering Information

FPLD54PTE - 001.0G
LVPECL SERIES CENTER FREQUENCY

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