CONNOR WINFIELD

THE CONNOR-WINFIELD CORP.
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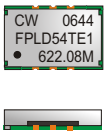
RoHS-5/6 COMPLIANT

PRODUCT DATA SHEET

CRYSTAL CONTROLLED OSCILLATORS

3.3V SURFACE MOUNT CLOCK OSCILLATOR



FPLD54TE1

ABSOLUTE MAXIMUM RATINGS

TABLE 1.0

PARAMETER	UNITS	MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Storage Temperature		-40	-	85	°C	
Supply Voltage	(Vcc)	-0.5	-	7.0	Vdc	
Enable/Disable Voltage	(Vc)	-0.5	-	Vcc+0.5	Vdc	

OPERATING SPECIFICATIONS

TABLE 2.0

PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Center Frequency	(Fo)	-	622.08000 644.53125 666.51430 669.32660 672.16270	-	MHz	
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)	-	-	100	mA	
Jitter (BW=10Hz to 20MHz)		-	-	5	ps rms	
Jitter (BW=12kHz to 80MHz)		-	-	1	ps rms	
SSB Phase Noise at 100Hz offset		-	-60	-	dBc/Hz	
SSB Phase Noise at 1KHz offset		-	-90	-	dBc/Hz	
SSB Phase Noise at 10KHz offset		-	-130	-	dBc/Hz	
SSB Phase Noise at 100KHz offset		-	-135	-	dBc/Hz	

INPUT CHARACTERISTICS

TABLE 3.0

PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Enable Input Voltage (Low) (Default)	(Vil)	-	-	1.68	Vdc	2
Disable Input Voltage (High)	(Vih)	2.275	-	-	Vdc	2

LOW VOLTAGE PECL OUTPUT CHARACTERISTICS

TABLE 4.0

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%		-	-	1	nS	

PACKAGE CHARACTERISTICS

TABLE 5.0

Package	Non-hermetic package consisting of an FR4 substrate with grounded metal cover.

PROCESS RECOMMENDATIONS

TABLE 6.0

Soldering Process	See solder profile on page 2.
Wash	Ultrasonic cleaning is not recommended.

Notes
1.0 Inclusive of calibration @ 25°C, frequency stability vs. temperature, supply and load variations, shock, vibration and aging for twenty years. Control voltage (Vc) = 1.65 Vdc.
2.0 When oscillator is disabled the true output is in a low state (Vol) and the complementary output is in the high state (VoH). Outputs are enabled with no connection on enable pad.
3.0 50 ohm termination into Vcc-2V or Thevein equivalent.

DESCRIPTION

The Connor-Winfield FPLD54TE1 is a 3.3V Clock Oscillator with Differential LVPECL outputs and Enable/Disable function. The FPLD54TE1 is designed for use with PLL systems in SONET/SDH systems requiring low jitter and tight frequency stability. No PLL multiplication schemes are used in this oscillator design.

FEATURES

LOW PROFILE, SURFACE MOUNT PACKAGE

3.3V OPERATION

LOW JITTER <1pS RMS

TOTAL FREQUENCY TOLERANCE ±20ppm

TEMPERATURE RANGE 0 to 70°C

DIFFERENTIAL LVPECL OUTPUTS

ENABLE / DISABLE FUNCTION

RoHS 5/6 COMPLIANT

ORDERING INFORMATION

FPLD54TE1 - 622.08M

FPLD54TE1: LVPECL CLOCK SERIES
622.08M: CENTER FREQUENCY

Specifications subject to change without notice.

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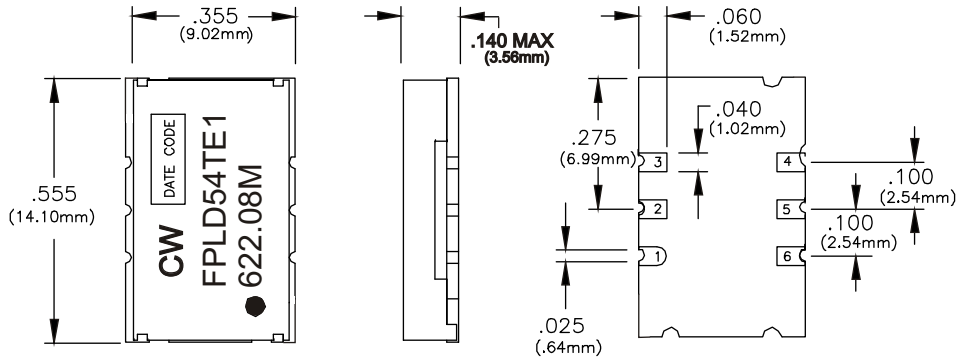
Package Outline

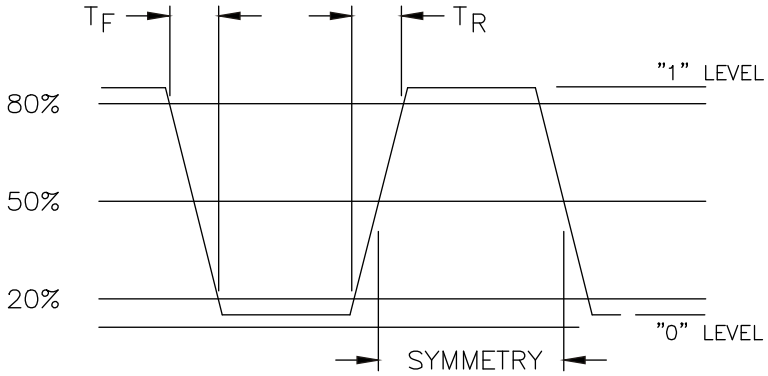


Pad Connections

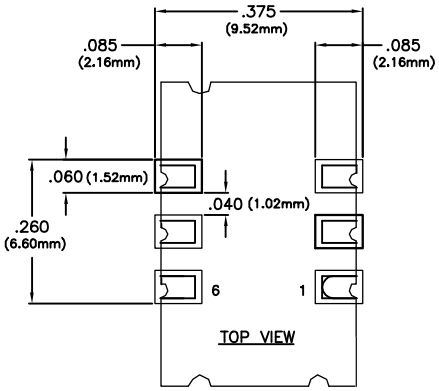
PIN	CONNECTION
1	N/C
2	ENABLE / DISABLE
3	GROUND
4	Q OUTPUT
5	$\overline{Q}$ OUTPUT
6	Vcc

Dimensional Tolerance:
±.005 (.127mm)

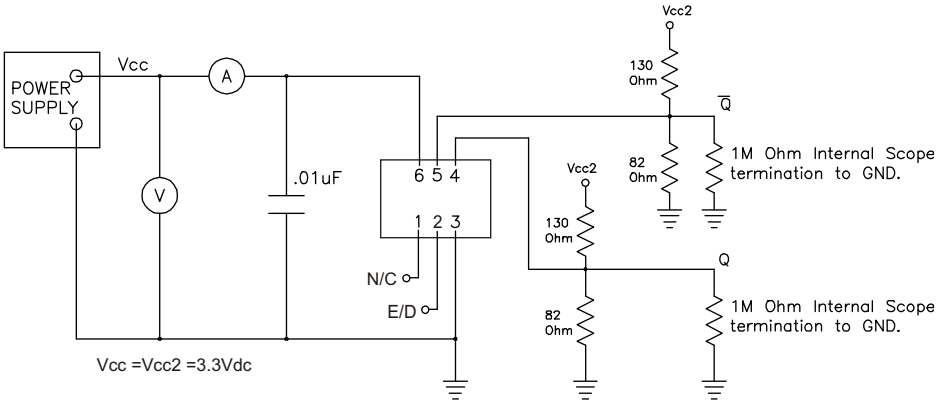
Output Waveform



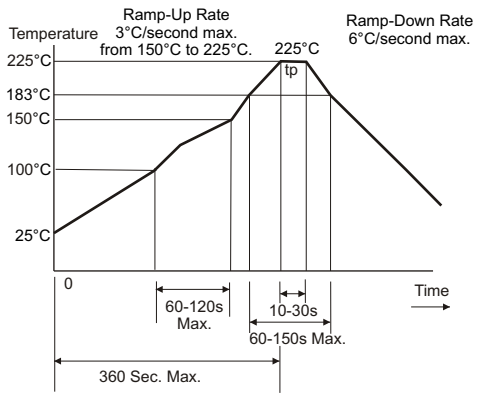
Suggested Pad Layout



Test Circuit



Solder Profile



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