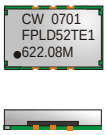
CONNOR WINFIELD

THE CONNOR-WINFIELD CORP.
2111 COMPREHENSIVE DRIVE.
AURORA, IL 60505.
FAX (630) 581-5040.
PHONE (630) 851-4722.
www.conwin.com

PRODUCT DATA SHEET

CRYSTAL CONTROLLED OSCILLATORS

3.3V SURFACE MOUNT CLOCK OSCILLATOR



FPLD52TE1

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	

OPERATING SPECIFICATIONS

TABLE 2.0

PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Center Frequency	(Fo)	-	341.20000 400.00000 622.08000 644.51000 644.53125 666.51430 669.32660	-	MHz	
Total Frequency Tolerance		-50	-	50	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)	(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

Solder Reflow	The component solder used internal to this device has a melting point of 221°C. The peak temperature inside the device should be less than or equal to 220°C for a maximum of 10 seconds
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 ten 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 FPLD52TE1 is a 3.3V Clock Oscillator (XO) with Differential LVPECL outputs and Enable/Disable function. The FPLD52TE1 is designed for use with applications requiring low jitter and tight stability. No multiplication schemes are used in this oscillator design.

FEATURES

LOW PROFILE, SURFACE MOUNT PACKAGE

3.3V OPERATION

LOW JITTER <1pS RMS

FREQUENCY TOLERANCE: ±50ppm

TEMPERATURE RANGE 0 to 70°C

DIFFERENTIAL LVPECL OUTPUTS

ENABLE / DISABLE FUNCTION

TAPE AND REEL PACKAGING

ORDERING INFORMATION

FPLD52TE1 - 622.08MHz

FPLD52TE1: LVPECL CLOCK SERIES
622.08MHz: CENTER FREQUENCY

Specifications subject to change without notice.

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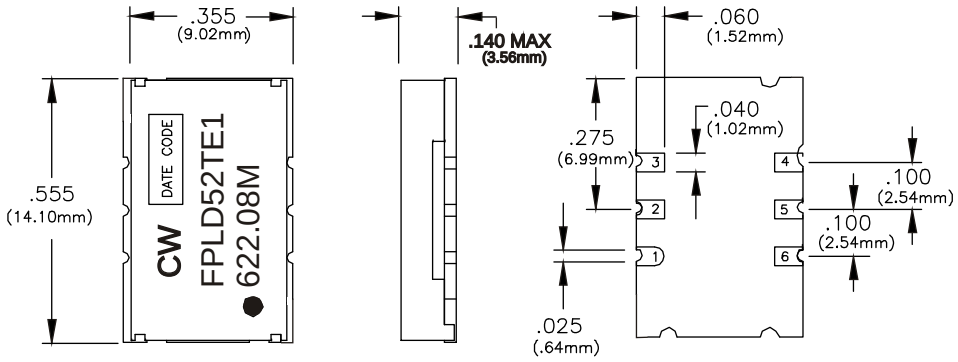
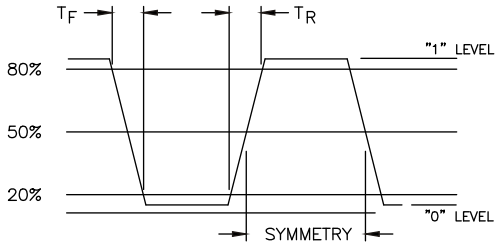


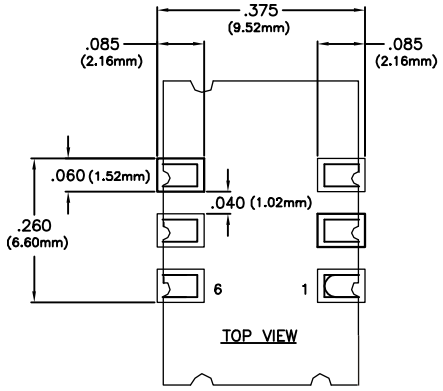
Pin	Function
1	N/C
2	Enable / Disable
3	Ground (Case)
4	Output Q
5	Comp Output Q
6	Vcc

Dimensional Tolerance:
±.005 (.127mm)

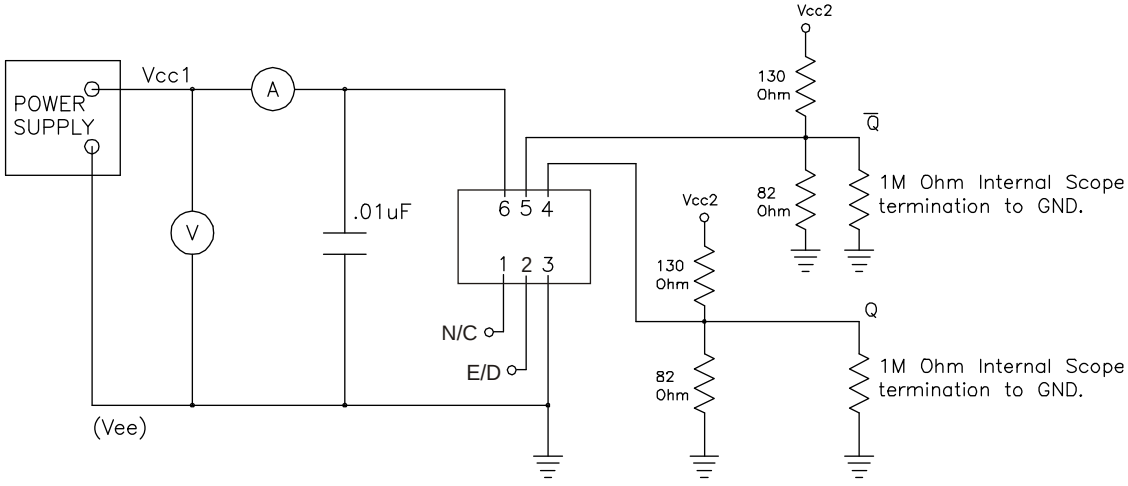
OUTPUT WAVEFORM



SUGGESTED PAD LAYOUT



TEST CIRCUIT



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