

CRYSTAL CONTROLLED OSCILLATORS

SURFACE MOUNT 3.3V LVPECL CLOCK



FPLD64TE

DESCRIPTION

The Connor-Winfield FPLD64TE is a fixed frequency, surface mount Crystal Controlled Oscillator (XO) designed for applications requiring low jitter and a ± 20 ppm overall stability. Operating at 3.3V supply voltage, the FPLD64TE provides LVPECL Differential Outputs with Enable/Disable function.

FEATURES

- 3.3V OPERATION
- LVPECL DIFFERENTIAL OUTPUTS
- ENABLE / DISABLE FUNCTION
- LOW JITTER <math>< 1\text{pS}</math> RMS
- OVERALL FREQUENCY TOLERANCE: ± 20 ppm
- TEMPERATURE RANGE: -40 to 85°C
- SURFACE MOUNT PACKAGE
- TAPE AND REEL PACKAGING

ORDERING INFORMATION

FPLD64TE - 155.52MHz

CLOCK SERIES CENTER FREQUENCY

Specifications subject to change without notice.

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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)	16.384	-	200	MHz	
Total Frequency Tolerance		-20	-	20	ppm	1
Operating Temperature Range		-40	-	85	°C	
Supply Voltage	(Vcc)	3.135	3.3	3.465	Vdc	
Supply Current	(Icc)	-	-	60	mA	
Jitter (BW=10Hz to 20MHz)		-	-	5	pS RMS	
Jitter (BW=12kHz to 20MHz)		-	-	1	pS RMS	

INPUT CHARACTERISTICS

TABLE 3.0

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

PECL OUTPUT CHARACTERISTICS

TABLE 4.0

PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
LOAD		-	-	50	Ohms	3
Voltage (High)	(Voh)	2.275	-	-	Vdc	
Voltage (Low)	(Vol)	-	-	1.68	Vdc	
Duty Cycle		45	50	55	%	4
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.
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PROCESS RECOMMENDATIONS

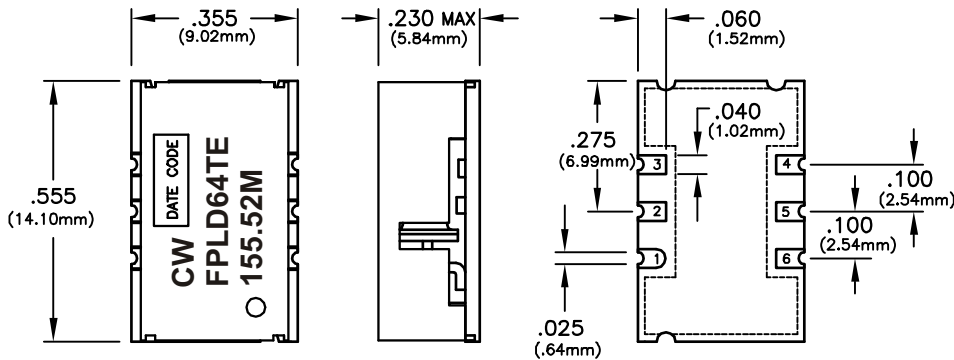
TABLE 6.0

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) Includes initial tolerance, deviation over temperature, supply and load variations, shock, vibration and 20 years aging.
- 2) When the oscillator is disabled, the true output is in a low state (Vol) and the complementary output is in the high state (Voh).
- 3) Output must be terminated into 50 ohms to Vcc - 2V or Thevenin equivalent.
- 4) Duty Cycle measured at 1.977V

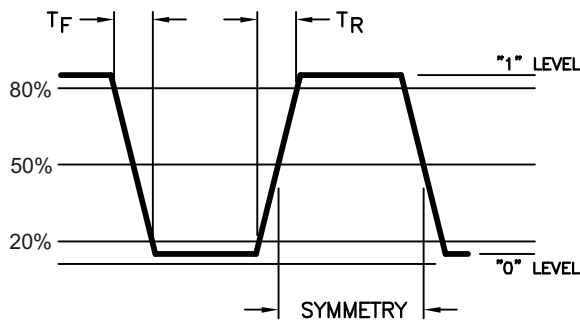
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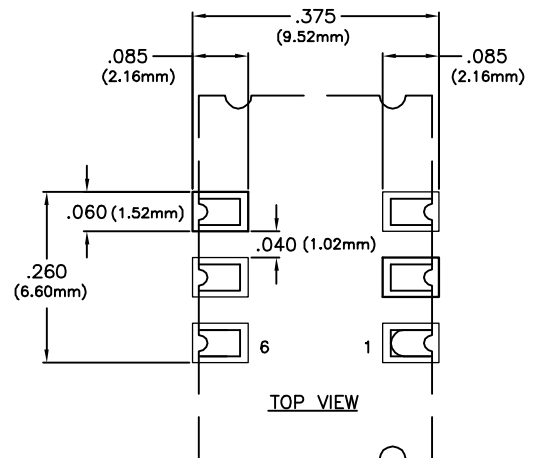
PIN	CONNECTION
1	ENABLE / DISABLE
2	N/C
3	GROUND
4	Q OUTPUT
5	\bar{Q} OUTPUT
6	Vcc

Dimensional Tolerance:
 $\pm .005"$ (.127mm)

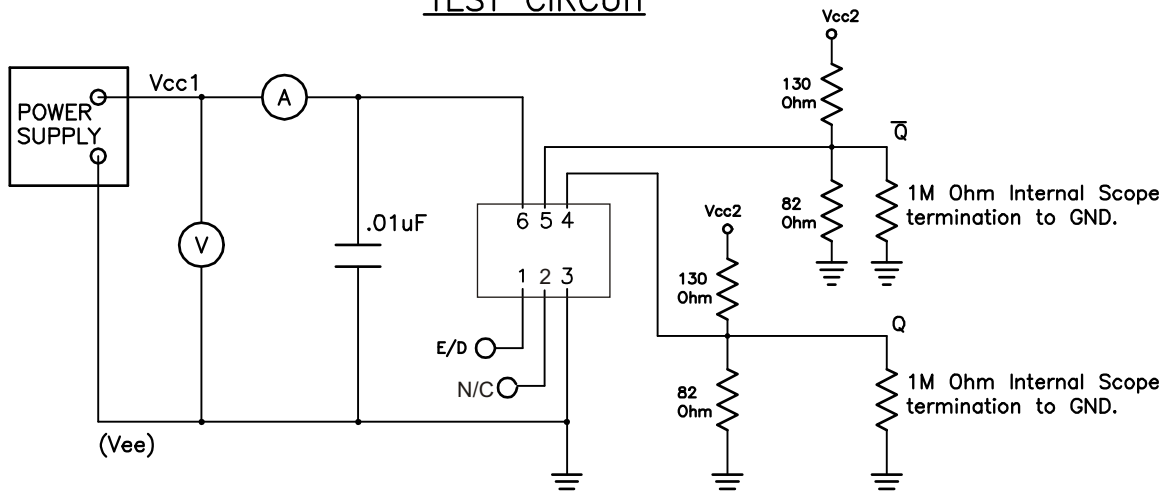
OUTPUT WAVEFORM



SUGGESTED PAD LAYOUT



TEST CIRCUIT



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