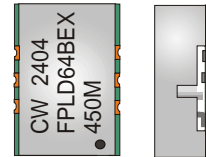


# CRYSTAL CONTROLLED OSCILLATORS

## SURFACE MOUNT 3.3V LVPECL CLOCK



### FPLD64BEX

#### DESCRIPTION

The Connor-Winfield FPLD64BEX is a fixed frequency, surface mount Crystal Controlled Oscillator (XO) designed for applications requiring low jitter and a  $\pm 20$ ppm frequency stability. Operating at 3.3V supply voltage, the FPLD64BEX provides LVPECL Differential Outputs with Enable/Disable function.

#### FEATURES

- 3.3V OPERATION
- LVPECL DIFFERENTIAL OUTPUTS
- ENABLE / DISABLE FUNCTION PAD 2
- OVERALL FREQUENCY TOLERANCE  $\pm 30$ ppm
- SURFACE MOUNT PACKAGE
- TAPE AND REEL PACKAGING

#### ORDERING INFORMATION

FPLD64BEX - 450MHz

LVPECL  
CLOCK  
SERIES

CENTER  
FREQUENCY

#### ABSOLUTE MAXIMUM RATINGS

TABLE 1.0

PARAMETER	UNITS	MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Storage Temperature		-55	-	125	°C	
Supply Voltage	(Vcc)	-0.5	-	7.0	Vdc	

#### OPERATING SPECIFICATIONS

TABLE 2.0

PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Center Frequency	(Fo)	200	-	800	MHz	
Frequency Stability		-20		20	ppm	1
Total Frequency Tolerance		-30		30	ppm	2
Operating Temperature Range		-40	-	85	°C	
Supply Voltage	(Vcc)	3.135	3.3	3.465	Vdc	
Supply Current	(Icc)	-	-	80	mA	
Jitter (BW=10Hz to 20MHz)		-	-	8	pS RMS	
Jitter (BW=12kHz to 20MHz)		-	-	3	pS RMS	

#### INPUT CHARACTERISTICS

TABLE 3.0

PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Disable Input Voltage (High)	(Vih)	2.275	-	-	Vdc	3
Enable Input Voltage (Low)	(Vil)	-	-	1.68	Vdc	3

#### PECL OUTPUT CHARACTERISTICS

TABLE 4.0

PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
LOAD		-	-	50	Ohms	4
Voltage (High)	(Voh)	2.275	-	-	Vdc	
(Low)	(Vol)	-	-	1.68	Vdc	
Duty Cycle		45	50	55	%	5
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

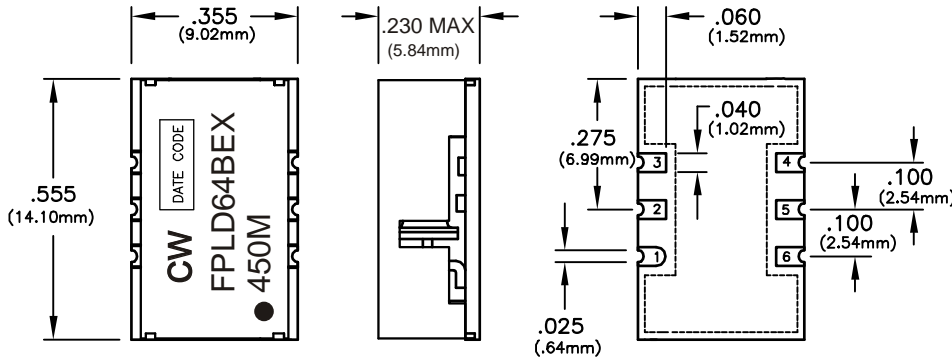
Solder Reflow	The component solder used internal to this device has a melting point of 221°C. The peak temperature inside the device should be less than or equal to 220°C for a maximum of 10 seconds
Wash	Ultrasonic cleaning is not recommended.

#### Notes

- 1) Frequency stability vs. change in temperature.
- 2) Inclusive of frequency calibration @ 25°C, frequency stability vs. change in temperature, supply and load variations, shock and vibration and 15 years aging.
- 3) When the oscillator is disabled, the true output and the complementary output are in the high impedance state.
- 4) Output must be terminated into 50 ohms to Vcc - 2V or Thevenin equivalent.
- 5) Duty Cycle measured at 1.977V

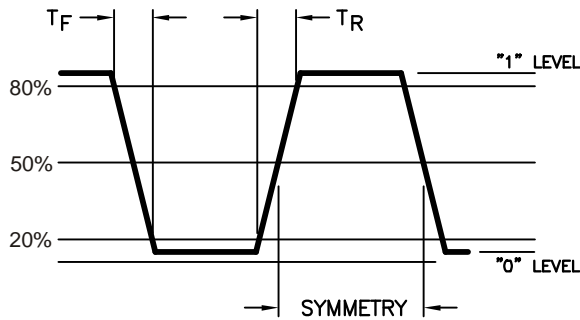
Specifications subject to change without notice.

CRYSTAL CONTROLLED OSCILLATORS

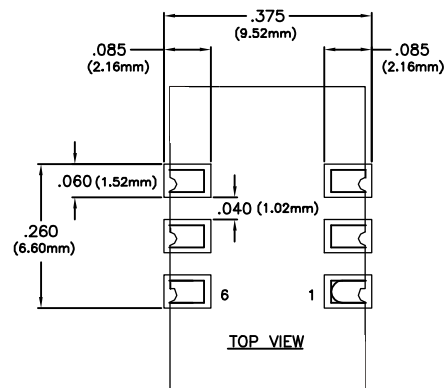


PIN	CONNECTION
1	N/C
2	ENABLE / DISABLE
3	GROUND
4	Q OUTPUT
5	$\bar{Q}$ OUTPUT
6	Vcc

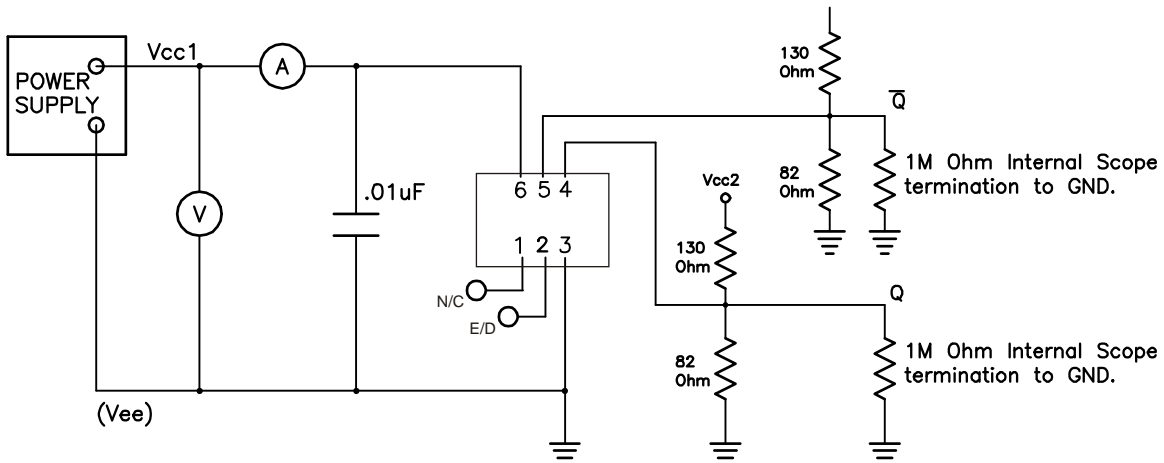
OUTPUT WAVEFORM



SUGGESTED PAD LAYOUT



TEST CIRCUIT



Specifications subject to change without notice.