

CRYSTAL CONTROLLED OSCILLATORS

3.3V SURFACE MOUNT LVPECL CLOCK



FPLD54TBX4G

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	
Input Voltage		-0.5	-	Vcc+0.5	Vdc	

OPERATING SPECIFICATIONS

TABLE 2.0

PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Center Frequency	(Fo)	200	-	800	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)	-	-	80	mA	
Jitter (BW=10Hz to 20MHz)		-	-	10	pS RMS	
Jitter (BW=12kHz to 20MHz)		-	-	2	pS RMS	
SSB Phase Noise at 10Hz offset		-	-75	-	dBc/Hz	
SSB Phase Noise at 100Hz offset		-	-95	-	dBc/Hz	
SSB Phase Noise at 1KHz offset		-	-110	-	dBc/Hz	
SSB Phase Noise at 10KHz offset		-	-125	-	dBc/Hz	
SSB Phase Noise at 100KHz offset		-	-120	-	dBc/Hz	

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

LVPECL 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%		-	0.5	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

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

Notes

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

DESCRIPTION

The Connor-Winfield FPLD54TBX4G 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 FPLD54TBX4G provides LVPECL Differential Outputs with Enable/Disable function.

FEATURES

- 3.3V OPERATION
- LVPECL DIFFERENTIAL OUTPUTS
- DISABLE FUNCTION PAD 2
- LOW JITTER <2pS RMS
- OVERALL FREQUENCY TOLERANCE: ± 20 ppm
- TEMPERATURE RANGE: 0 to 70°C
- SURFACE MOUNT PACKAGE
- TAPE AND REEL PACKAGING
- RoHS COMPLIANT / LEAD FREE

ORDERING INFORMATION

FPLD54TBX4G - 466.56M

LVPECL
CLOCK
SERIES

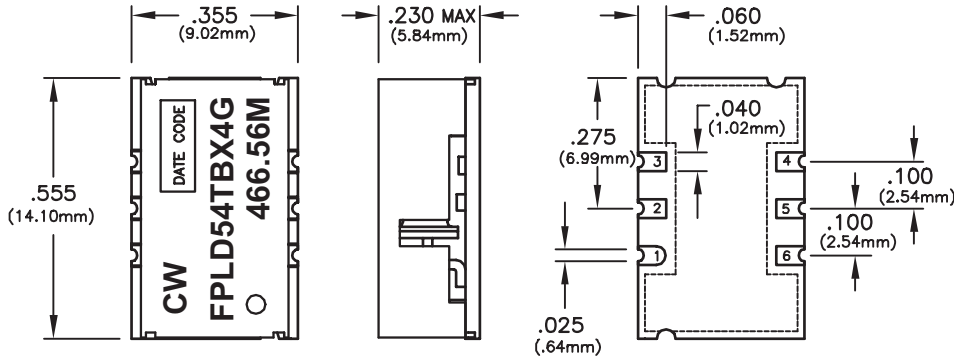
CENTER
FREQUENCY

Specifications subject to change without notice.

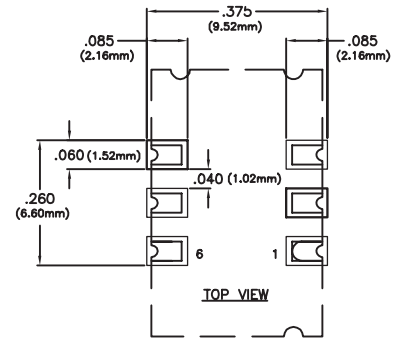
PRODUCT DATA SHEET

CRYSTAL CONTROLLED OSCILLATORS

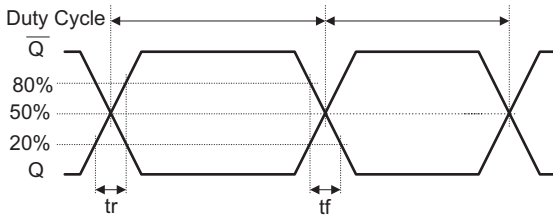
Package Outline



Suggested Pad Layout



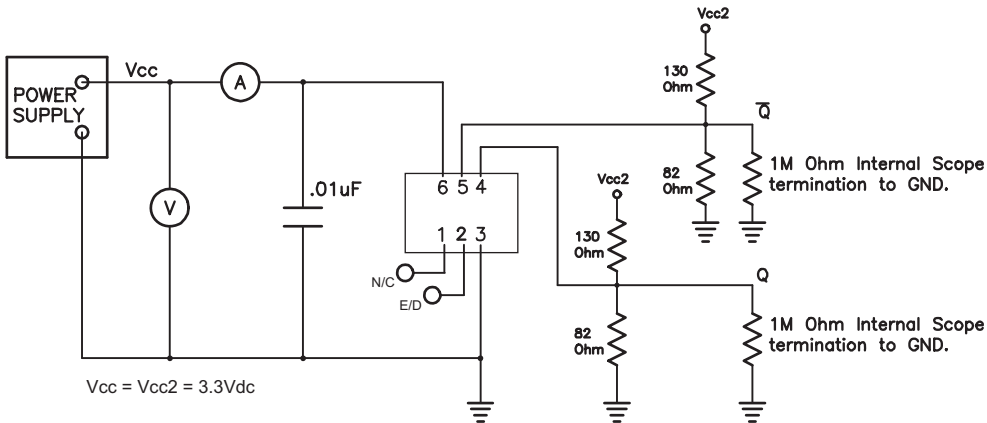
Output Waveform



Pin Connections

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

Test Circuit



Solder Profile

