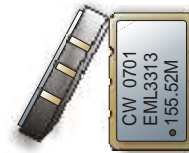


# CRYSTAL CONTROLLED OSCILLATORS

## LEADLESS SURFACE MOUNT 3.3V PECL CLOCK



### EML3313

#### ABSOLUTE MAXIMUM RATINGS

TABLE 1.0

PARAMETER	UNITS	MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Storage Temperature		-55	-	105	°C	
Supply Voltage	(Vcc)	-0.5	-	7.0	Vdc	

#### OPERATING SPECIFICATIONS

TABLE 2.0

PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Frequency Range	(Fo)	19.44	-	164	MHz	
Total Frequency Tolerance		-100	-	100	ppm	1
Operating Temperature Range		0	-	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	
Sub Harmonics		-	-60	-	dB	
SSB Phase Noise at 10Hz offset		-	-60	-	dBc/Hz	
SSB Phase Noise at 100Hz offset		-	-90	-	dBc/Hz	
SSB Phase Noise at 1KHz offset		-	-100	-	dBc/Hz	
SSB Phase Noise at 10KHz offset		-	-125	-	dBc/Hz	
SSB Phase Noise at 10KHz offset		-	-135	-	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

#### 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		45	50	55	%	4
Rise / Fall Time 20% to 80%		-	-	1	nS	

#### PACKAGE CHARACTERISTICS

TABLE 5.0

Package	Hermetically sealed, leadless ceramic package
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#### Notes

- Includes calibration, stability vs. temperature, supply and load variations, shock, vibration and aging (10 years).
- When oscillator is disabled the true output is in a low state (Vol) and the complementary output is in the high state (VoH)
- Output must be terminated into 50 ohms to Vcc - 2V or Thevenin equivalent.
- Duty Cycle measured at 1.977V

#### DESCRIPTION

The Connor-Winfield EML3313 is a fixed frequency surface mount Crystal Controlled Oscillator (OX) designed for applications requiring low jitter and a  $\pm 100$ ppm Frequency stability. Operating at 3.3V supply voltage, the EML3313 provides LVPECL compatible outputs with enable/disable.

#### FEATURES

- 3.3V OPERATION
- LOW JITTER <1ps RMS
- FREQUENCY STABILITY  $\pm 100$ PPM
- ENABLE/DISABLE
- SURFACE MOUNT PACKAGE
- TAPE AND REEL PACKAGING

#### ORDERING INFORMATION

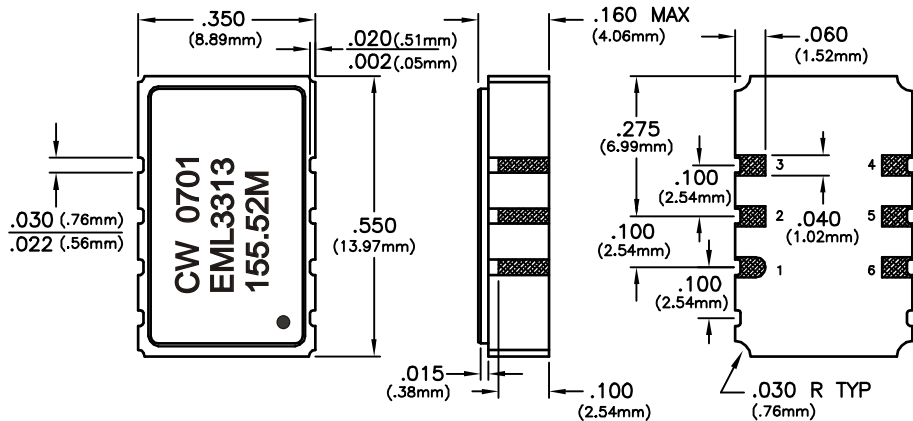
EML3313 - 155.52 MHz

PECL  
SERIES

CENTER  
FREQUENCY

Specifications subject to change without notice.

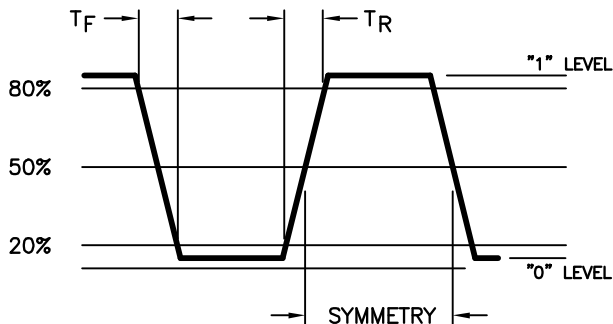
CRYSTAL CONTROLLED OSCILLATORS



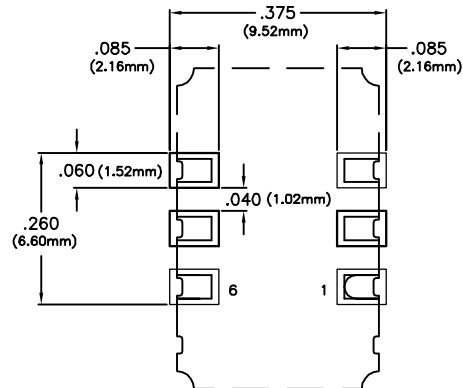
PIN	FUNCTION
1	Q OUTPUT (COMP)
2	N/C
3	GROUND
4	Q OUTPUT
5	N/C
6	Vcc

NOTE 1: Metal cover is tied to pin 3

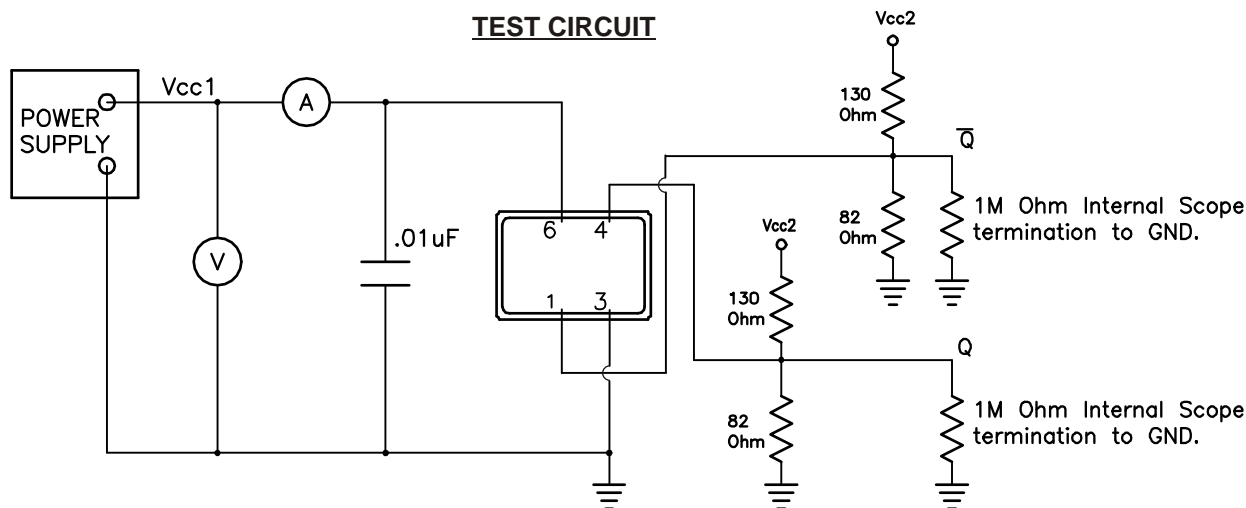
OUTPUT WAVEFORM



SUGGESTED PAD LAYOUT



TEST CIRCUIT



Specifications subject to change without notice.