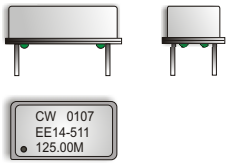
CONNOR WINFIELD
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PRODUCT DATA SHEET

CRYSTAL CONTROLLED OSCILLATORS

14 PIN 3.3V ECL CLOCK OSCILLATOR



EE14-511, EE14-521,
EE14-531, EE14-541

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	

MODEL SPECIFICATIONS:

TABLE 2.0

MODEL EE14-511

Center Frequency	(Fo)	13	-	165	MHz	
Total Frequency Tolerance		-25		25	ppm	1

MODEL EE14-521

Center Frequency	(Fo)	13	-	165	MHz	
Total Frequency Tolerance		-50		50	ppm	1

MODEL EE14-531

Center Frequency	(Fo)	13	-	165	MHz	
Total Frequency Tolerance		-100		100	ppm	1

MODEL EE14-541

Center Frequency	(Fo)	13	-	165	MHz	
Total Frequency Tolerance		-20		20	ppm	1

OPERATING SPECIFICATIONS

TABLE 3.0

PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Center Frequency	(Fo)	13	-	165	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)	-	-	60	mA	
Jitter (BW=10Hz to 20MHz)		-	-	5	pS RMS	
Jitter (BW=12kHz to 20MHz)		-	-	1	pS RMS	
SSB Phase Noise at 100Hz offset		-	-60	-	dBc/Hz	
SSB Phase Noise at 1KHz offset		-	-100	-	dBc/Hz	
SSB Phase Noise at 10KHz offset		-	-130	-	dBc/Hz	
SSB Phase Noise at 100KHz offset		-	-140	-	dBc/Hz	

PECL OUTPUT CHARACTERISTICS

TABLE 4.0

PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
LOAD		-	-	50	Ohms	2
Voltage (High)	(Voh)	2.275	-	-	Vdc	
(Low)	(Vol)	-	-	1.68	Vdc	
Duty Cycle		45	50	55	%	3
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) Inclusive of calibration tolerance @ 25°C, frequency vs. temperature, frequency vs. change in supply voltage, frequency vs. load variations, shock and vibration and 10 years aging.
2) Output must be terminated into 50 ohms to Vcc – 2V or Thevenin equivalent.
3) Duty Cycle measured at 1.977V

DESCRIPTION

The Connor-Winfield EE14-5xx series are fixed frequency Crystal Controlled Oscillators (XO) designed for applications requiring low jitter and a tight frequency stability. Operating at 3.3V supply voltage, the EE14-5xx series provides LVPECL Differential outputs.

FEATURES

3.3V OPERATION

LOW JITTER <1pS RMS

LVPECL DIFFERENTIAL OUTPUTS

OVERALL FREQUENCY TOLERANCE:
MODEL EE14-511 ±25ppm
MODEL EE14-521 ±50ppm
MODEL EE14-531 ±100ppm
MODEL EE14-541 ±20ppm

TEMPERATURE RANGE: 0 to 70°C

ORDERING INFORMATION

EE14-511 - 125.00 MHz

LVPECL CLOCK SERIES

CENTER FREQUENCY

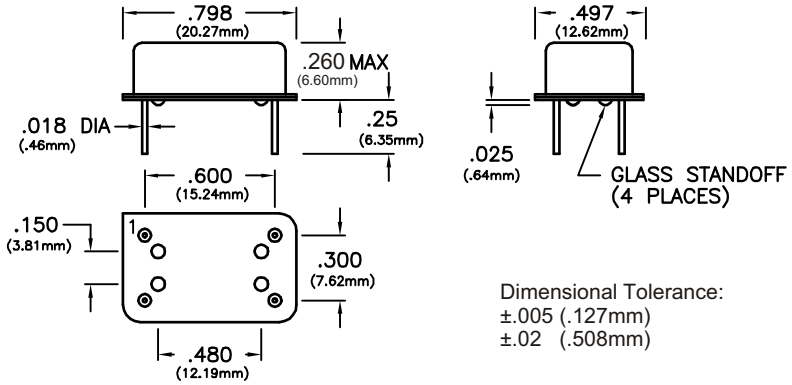
Specifications subject to change without notice.

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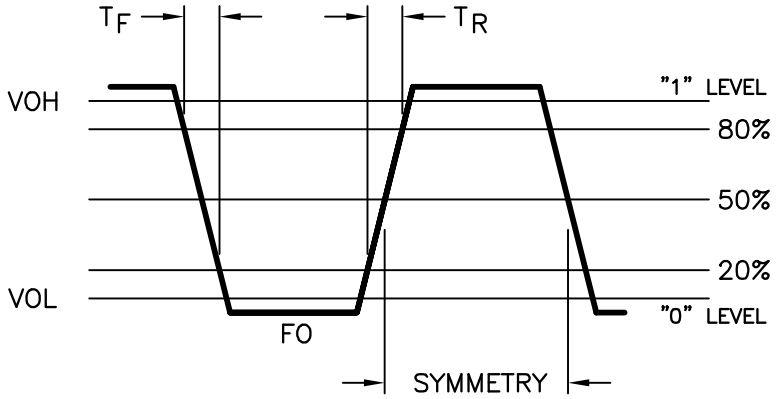
PRODUCT DATA SHEET

CRYSTAL CONTROLLED OSCILLATORS

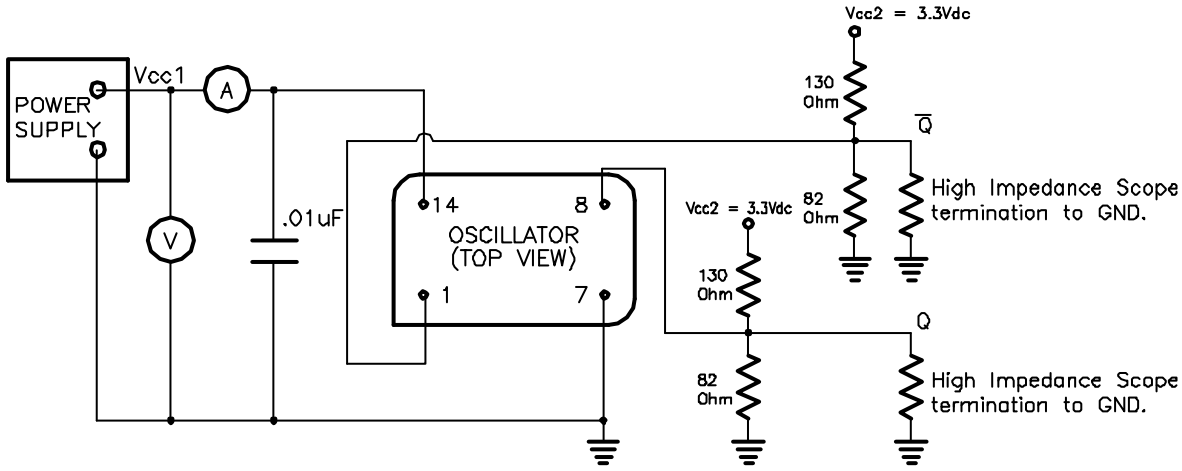


PIN	CONNECTION
1	COMP OUT
7	Vee (Case Ground)
8	OUTPUT
14	Vcc

Dimensional Tolerance:
±.005 (.127mm)
±.02 (.508mm)



TEST CIRCUIT



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