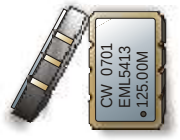
CONNOR WINFIELD
THE CONNOR-WINFIELD CORP.
2111 COMPREHENSIVE DRIVE.
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PRODUCT DATA SHEET

CRYSTAL CONTROLLED OSCILLATORS

SURFACE MOUNT 3.3V PECL CLOCK



EML5413

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)	19.44	-	164	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 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	

PECL OUTPUT CHARACTERISTICS

TABLE 3.0

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 4.0

Package	Hermetically sealed, leadless ceramic package.

Notes
1) Includes calibration, stability vs. temperature, supply and load variations, shock, vibration and aging (10 years).
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 EML5413 is a fixed frequency surface mount Crystal Controlled Oscillator (XO) designed for applications requiring low jitter and tight Frequency stability. Operating at 3.3V supply voltage, the EML5413 provides LVPECL compatible outputs.

FEATURES

3.3V OPERATION

LVPECL DIFFERENTIAL OUTPUTS

LOW JITTER <1pS RMS

OVERALL FREQUENCY TOLERANCE: ±20ppm

TEMPERATURE RANGE: 0 to 70°C

SURFACE MOUNT PACKAGE

TAPE AND REEL PACKAGING

ORDERING INFORMATION

EML5413 - 155.52MHz

PECL SERIES

CENTER FREQUENCY

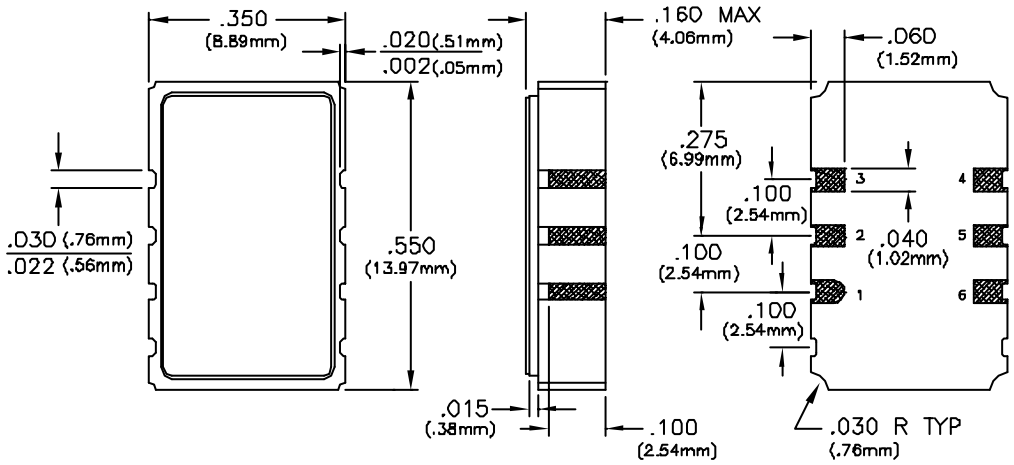
Specifications subject to change without notice.

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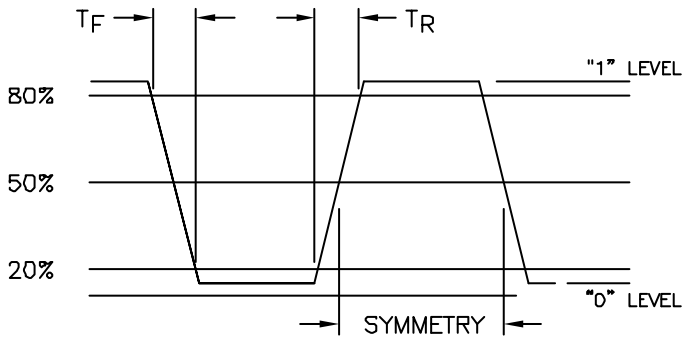
CRYSTAL CONTROLLED OSCILLATORS



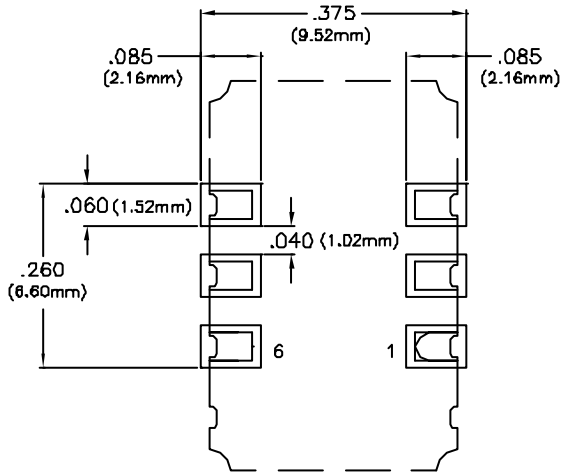
PIN	CONNECTION
1	$\overline{Q}$ OUTPUT
2	N/C
3	GND
4	Q OUTPUT
5	N/C
6	Vcc

NOTE 1: Metal cover is tied to pin 3

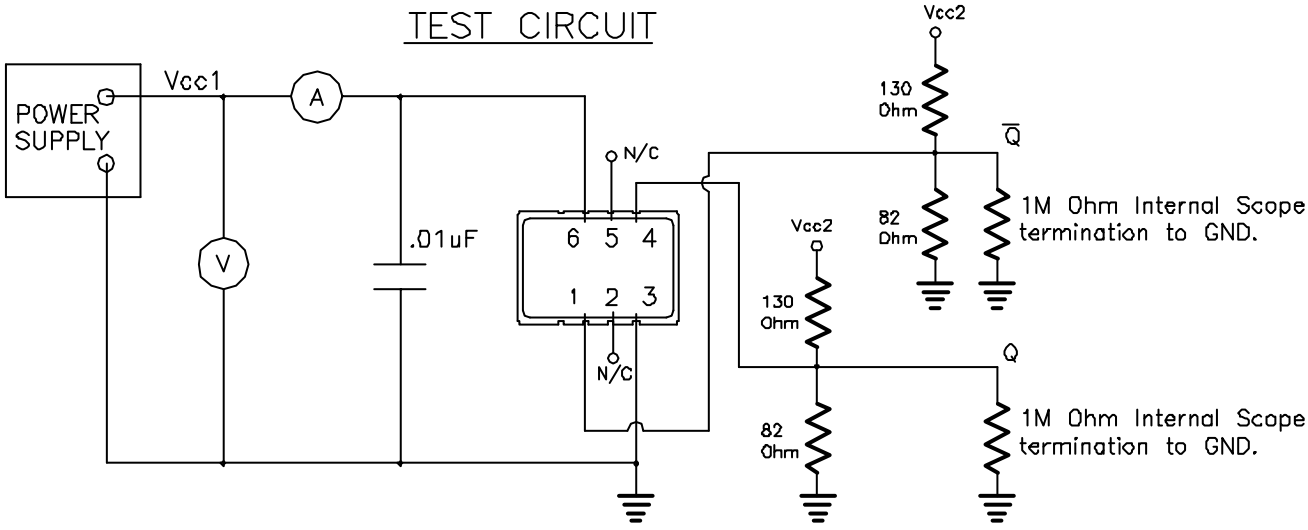
OUTPUT WAVEFORM



NO LEADS SUGGESTED PAD LAYOUT



TEST CIRCUIT



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