CONNOR WINFIELD

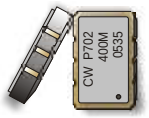
THE CONNOR-WINFIELD CORP.
2111 COMPREHENSIVE DRIVE.
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PRODUCT DATA SHEET

RoHS COMPLIANT

CRYSTAL CONTROLLED OSCILLATORS

CERAMIC SURFACE MOUNT 3.3V LVPECL 5x7.0mm HIGH FREQUENCY CLOCK OSCILLATOR



P702

ABSOLUTE MAXIMUM RATINGS

TABLE 1.0

PARAMETER	UNITS	MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Storage Temperature		-55	-	125	°C	
Supply Voltage	(Vcc)	-0.5	-	4.6	Vdc	
Input Voltage	(Vcc)	-0.5	-	Vcc+0.5	Vdc	

OPERATING SPECIFICATIONS

TABLE 2.0

PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Center Frequency	(Fo)	250	-	800	MHz	
Total Frequency Tolerance		-100		100	ppm	1
Operating Temperature Range		0	-	70	°C	
Supply Voltage	(Vcc)	3.135	3.3	3.465	Vdc	
Supply Current	(Icc)	-	60	100	mA	
Jitter (BW=10Hz to 20MHz)		-	-	8	pS RMS	
Jitter (BW=12kHz to 20MHz)		-	-	2	pS RMS	

INPUT CHARACTERISTICS

TABLE 3.0

PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Disable Input Voltage (Low)	(Vil)	-	-	1.68	Vdc	2
Enable Input Voltage (High)	(Vih)	2.275	-	-	Vdc	2

LVPECL 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%		-	-	0.5	nS	

PACKAGE CHARACTERISTICS

TABLE 5.0

Package	Hermetically sealed ceramic package and metal cover.

Notes
1) Includes calibration @ 25°C, frequency stability vs. temperature, supply and load variations, shock, vibration and 20 years aging.
2) When the oscillator is disabled, the outputs are at High Impedance. Output is enabled with no connection on pad 1.
3) Output must be terminated into 50 ohms to Vcc – 2V or Thevenin equivalent.
4) Duty Cycle measured at 50% of output swing.

DESCRIPTION

The Connor Winfield P702 is a Fixed Frequency, Surface Mount Crystal Controlled Oscillator (XO) designed for applications requiring low jitter and a ±100ppm, 0 to 70°C overall stability, LVPECL Differential Outputs and Tri-state Enable / Disable function. The P702 is designed using a 2X or 4X PLL multiplication to achieve the high frequency output.

FEATURES

- 3.3V OPERATION
- LVPECL DIFFERENTIAL OUTPUTS
- ENABLE / DISABLE
- LOW JITTER <2pS RMS
- OVERALL FREQUENCY TOLERANCE ±100ppm
- TEMPERATURE RANGE: 0 to 70°C
- SURFACE MOUNT PACKAGE
- TAPE AND REEL PACKAGING
- RoHS COMPLIANT

ORDERING INFORMATION

P702 - 400MHz

P702 — CLOCK SERIES
400MHz — CENTER FREQUENCY

Specifications subject to change without notice.

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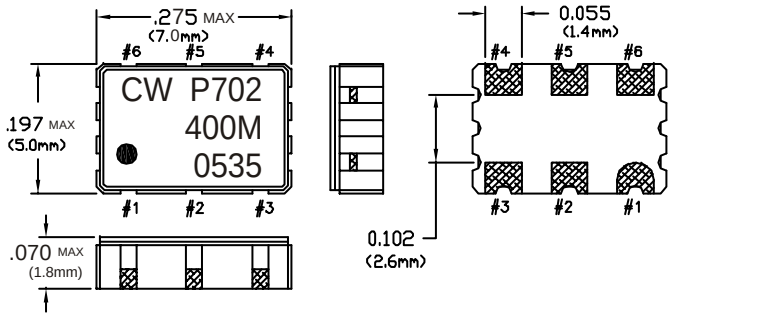
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RoHS COMPLIANT

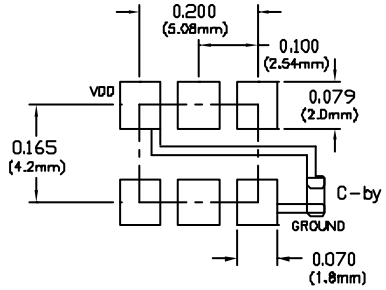
CRYSTAL CONTROLLED OSCILLATORS

PACKAGE LAYOUT



Dimensional ±.02" (±0.5mm)
Tolerance: ±.008" (±0.2mm)

SUGGESTED PAD LAYOUT



Bypass capacitor, C-by, should be ceramic capacitor ≥ .01uf.

PIN CONNECTIONS

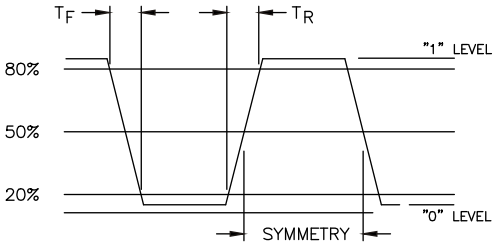
TABLE 6.0

Pin	Connection
1	Enable / Disable
2	N/C
3	Ground
4	Q Output
5	Q Output
6	Vcc

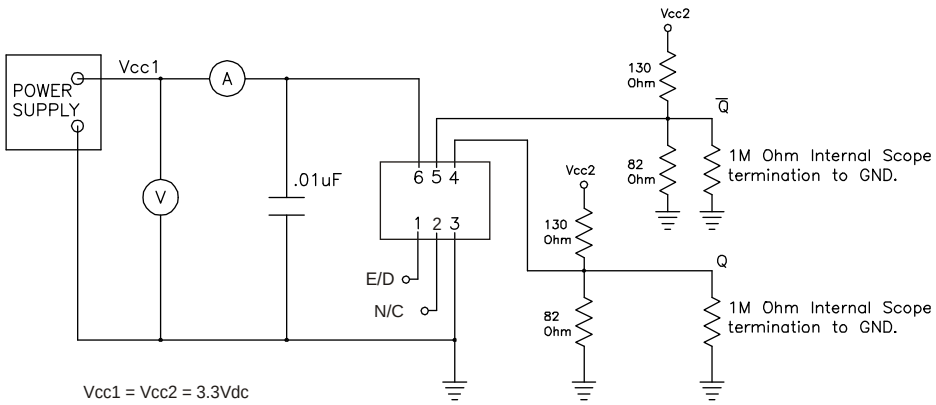
TABLE 7.0

Enable / Disable Function (Pad 1)	Output
High or Open	Enable
Low	Disable (High Impedance)

OUTPUT WAVEFORM

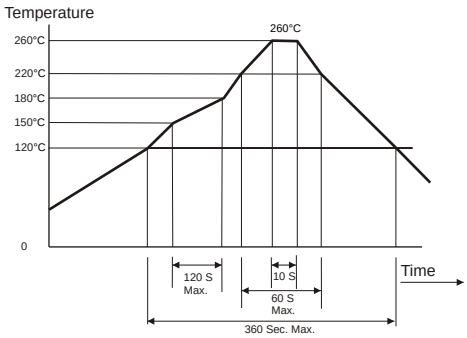


TEST CIRCUIT



Vcc1 = Vcc2 = 3.3Vdc

SOLDER PROFILE



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