CONNOR WINFIELD

THE CONNOR-WINFIELD CORP.
2111 COMPREHENSIVE DRIVE.
AURORA, IL 60505.
FAX (630) 851-5040.
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PRODUCT DATA SHEET

CRYSTAL CONTROLLED OSCILLATORS

5.0V 7.5x5mm FIXED FREQUENCY OSCILLATOR

CWX815

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
Frequency Range	(Fo)	1.00	-	100.00	MHz	
Additional Frequencies Available		106.25, 125.00, 155.52 and 156.25			MHz	
Frequency Tolerance		-25	-	25	ppm	1
Operating Temperature Range		-20	-	70	°C	
Supply Voltage	(Vdd)	4.5	5.0	5.5	Vdc	
Supply Current	(Icc)	-	-	45	mA	

INPUT CHARACTERISTICS

TABLE 3.0

Enable Voltage	(Vih)	≥ 2.2	-	-	Vdc	2
Disable Voltage	(Vil)	-	-	≤ 0.8	Vdc	

HCMOS OUTPUT CHARACTERISTICS

TABLE 4.0

PARAMETER			MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
LOAD			-	-	50	pF	
Voltage	(High)	(Voh)	4.5	-	-	Vdc	
	(Low)	(Vol)	-	-	0.4	Vdc	
Current	(High)	(Ioh)	-8	-	-	mA	
	(Low)	(Ioh)	-	-	8	mA	
Duty Cycle at 50% of Vcc			40	50	60	%	
Rise / Fall Time 20% to 80%			-	2	6	nS	
Start-Up Time			-	-	10	mS	
Jitter (BW=10Hz to 20MHz)			-	-	5	ps rms	
Jitter (BW=12kHz to 20MHz)			-	-	1	ps rms	

PACKAGE CHARACTERISTICS

TABLE 5.0

Package	Hermetically sealed ceramic package

Note:
1) Inclusive of calibration @ 25°C, frequency vs. temperature stability, supply voltage change, load change, shock and vibration, 10 years aging.
2) Oscillator output is enabled with no connection on pad 1

Standard Frequencies Available (MHz)

TABLE 6.0

1.544	1.8432	2.048	3.6864	4	5
6.48	10	11.0592	12	12.288	14.31818
15.36	16	16.896	19.44	20	24
24.576	25	27	29.498928	29.4912	30
32.768	33	33.33	36	40	44.736
48	49.152	50	60	66	75
80	100	106.25	125	155.52	156.25

TABLE 7.0

Pad	Connection
1	Enable/Disable
2	Ground
3	Output
4	Vcc

TABLE 8.0

Enable / Disable Function	Output
Pin 1 Open	Pin 3 Active
Pin 1 > 2.2V	Pin 3 Active
Pin 1 < 0.8V	Pin 3 High Impedance

DESCRIPTION

The Connor-Winfield CWX815 is a 5.0V, HCMOS, 7.5x5mm, Surface Mount, Fixed Frequency Crystal Oscillator (XO) designed for use in applications requiring high stability and low jitter. The surface mount package is designed for high-density mounting and is optimum for mass production.

FEATURES

1 MHz to 156.25 MHz

5.0V OPERATION

FREQUENCY TOLERANCE: ±25ppm

TEMPERATURE RANGE: -20 to 70°C

LOW JITTER: >1 pS RMS

TRI-STATE ENABLE / DISABLE

CERAMIC SURFACE MOUNT PACKAGE

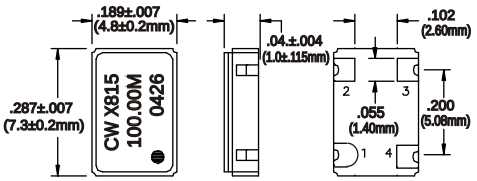
TAPE AND REEL PACKAGING

ORDERING INFORMATION

CWX815 - 100.00 MHz

CLOCK SERIES

CENTER FREQUENCY



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

Specifications subject to change without notice.

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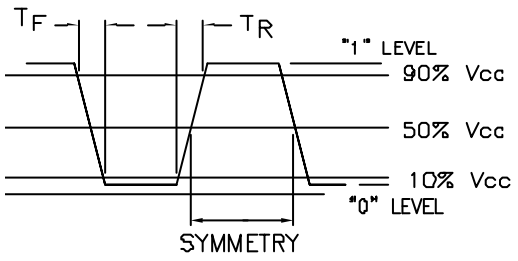
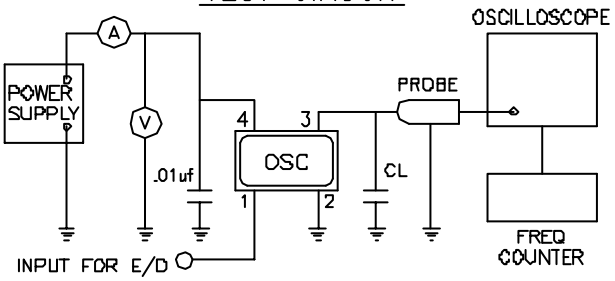
OUTPUT WAVEFORM



TEST CIRCUIT



MECHANICAL CHARACTERISTICS

FREE DROP:
The specimen shall meet electrical characteristics after tested 3 times Free Drop testing on the hard wooden board from a height of 75cm.

VIBRATION:
The specimen shall meet electrical characteristics after tested by the following conditions;
10–55Hz 1.5mm Amplitude, 55–2000Hz 20G's,
2 hours for each plane.

THERMAL SHOCK:
After applied Thermal Shock of 260 °C max x 10 sec max x 2 times, or 230 °C max x 180 sec max, the specimen shall meet electrical characteristics.

SOLDERABILITY: (EIAJ-RCX-0102/101 Condition 1a)
1. Flux: MIL-F-14256 (WW Rosin=25%, Isopropyl alcohol=75%)
2. Solder: QQ-S-571 (Sn=63%, Pb=37%)
3. Solder bath temperature: 235 °C ±5 °C.
4. Depth of immersion: Up to electrical terminal.
5. Immersing time: Within 2 sec ±0.5 sec into solder bath.

After performing the above procedures, a newly soldered coverage shall be greater than 90%.

ENVIRONMENTAL CHARACTERISTICS

TEMPERATURE CYCLE:
The specimen shall meet electrical characteristics after tested 5 cycles of −55 °C/30 min & +125 °C/30 min.

HERMETICAL
No bubbles appear in Flaurinert (FC-43) at 125 °C ±5 °C, for 5 minutes.

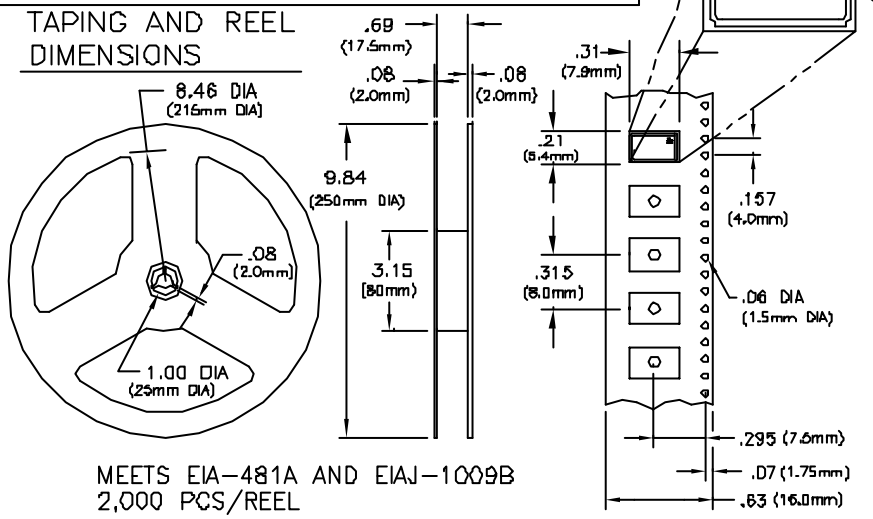
SOLVENT RESISTANCE:
Marking will withstand immersion in Isopropyl Alcohol or Trichloroethylene.

SOLDERING

GENERAL CONDITIONS:
260 °C max x 10 sec max x 2 times max or
230 °C max x 180 sec max x 1 time.

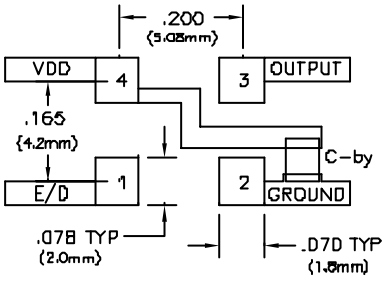
TYPICAL OPERATION DATA (Vapor phase reflow)
20 to 100 sec up to 215 °C, 50 sec at 215 °C then down to room temperature per 1 to 5 °C/sec

TAPING AND REEL DIMENSIONS



MEETS EIA-481A AND EIAJ-1009B
2,000 PCS/REEL

SUGGESTED PAD LAYOUT



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

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

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