CONNOR WINFIELD

THE CONNOR-WINFIELD CORP.
2111 COMPREHENSIVE DRIVE.
AURORA, IL 60505.
FAX (630) 851-5040.
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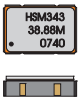
RoHS COMPLIANT

PRODUCT DATA SHEET

CRYSTAL CONTROLLED OSCILLATORS

3.3V SURFACE MOUNT 7.5x5mm CRYSTAL CLOCK OSCILLATOR



HSM343

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	

MODEL SPECIFICATIONS:

TABLE 2.0

Frequency Range	(Fo)	1.544	-	125	MHz	
Frequency Tolerance:		-20	-	20	ppm	1

OPERATING SPECIFICATIONS

TABLE 3.0

PARAMETER			MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Operating Temperature Range			0	-	85	°C	
Supply Voltage		(Vdd)	3.135	3.3	3.465	Vdc	
Supply Current	1.544 to 31.99 MHz	(Icc)	-	-	15	mA	
	32 to 49.99 MHz	(Icc)	-	-	20	mA	
	50 to 66.99 MHz	(Icc)	-	-	25	mA	
	67 to 125 MHz	(Icc)	-	-	40	mA	

INPUT CHARACTERISTICS

TABLE 4.0

Enable Voltage	(Vih)	70%Vcc	-	-	Vdc	2
Disable Voltage	(Vil)	-	-	30%Vcc	Vdc	
Enable Time		-	-	10	mS	
Disable Time		-	-	150	nS	
Output Disable Current	(Icc)	-	-	10	uA	

LVCMOS OUTPUT CHARACTERISTICS

TABLE 5.0

PARAMETER			MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
LOAD			-	-	15	pF	
Voltage	(High)	(Voh)	2.91	-	-	Vdc	
	(Low)	(Vol)	-	-	0.33	Vdc	
Current	(High)	(Ioh)	-2	-	-	mA	
	(Low)	(Ioh)	-	-	2	mA	
Duty Cycle at 50% of Vcc			45	50	55	%	
Rise / Fall Time 10% to 90%			-	4	6	nS	
Start-Up Time			-	-	10	mS	
Jitter			-	-	5	pS RMS	

PACKAGE CHARACTERISTICS

TABLE 6.0

Package	Hermetically sealed ceramic package and metal cover

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

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

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

DESCRIPTION

The Connor-Winfield model HSM343 is a Surface Mount, Fixed Frequency Crystal Oscillator (XO) designed for use in all applications requiring a precision clock. The surface mount package is designed for high-density mounting and is optimum for mass production.

FEATURES

1.544 to 125 MHz

3.3V OPERATION

TRI-STATE ENABLE / DISABLE FUNCTION

POWER SAVING FUNCTION: 10uA WHEN DISABLED

OVERALL FREQUENCY TOLERANCE: ±20ppm

TEMPERATURE RANGE: 0 to 85°C

CERAMIC SURFACE MOUNT PACKAGE

TAPE AND REEL PACKAGING

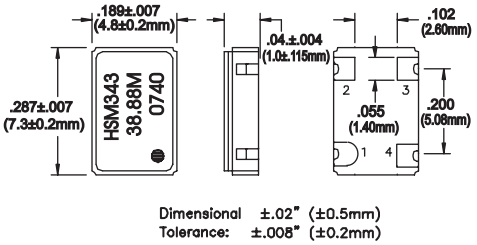
RoHS COMPLIANT / LEAD FREE

ORDERING INFORMATION

HSM343 - 038.88M

CLOCK SERIES

CENTER FREQUENCY



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

Specifications subject to change without notice.

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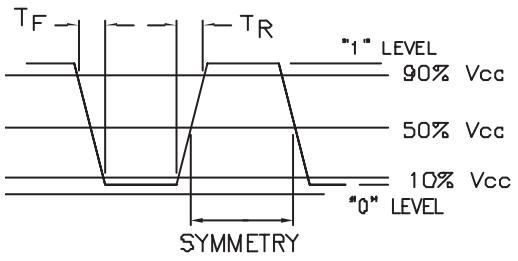
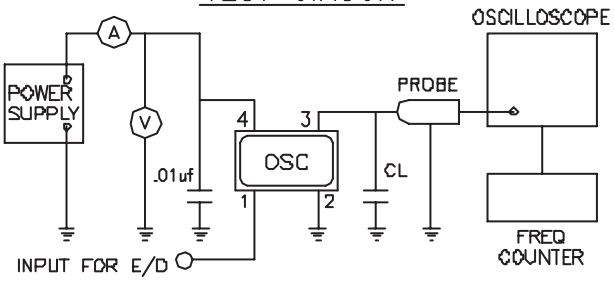
OUTPUT WAVEFORM



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.

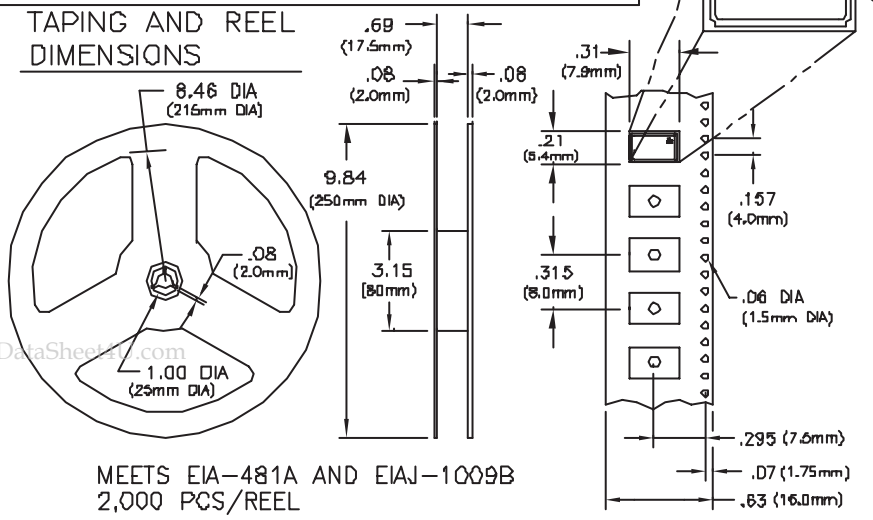
SOLVENT RESISTANCE:
Marking will withstand immersion in Isopropyl Alcohol or Trichloroethylene.

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.

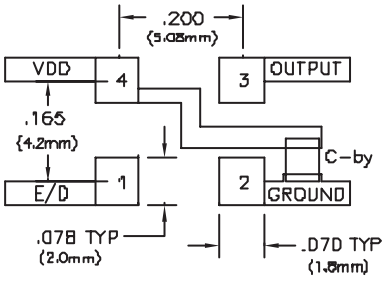
TYPICAL OPERATION DATA (Vapor phase reflow)
20 to 100 sec up to 215 °C, 50 sec at 215 °C then down to room temperature per 1 to 5 °C/sec

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

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