

CRYSTAL CONTROLLED OSCILLATORS

5.0V SURFACE MOUNT 11x6.35mm HCMOS CLOCK OSCILLATOR

ABSOLUTE MAXIMUM RATINGS

PARAMETER	UNITS	MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Storage Temperature		-55	-	125	°C	
Supply Voltage	(Vcc)	-0.5	-	7.0	Vdc	

MODEL SPECIFICATIONS:
MODEL HSM546

Frequency Range	(Fo)	1.8	-	80	MHz	
Frequency Tolerance:		-20	-	20	ppm	1

MODEL HSM516

Frequency Range	(Fo)	1.8	-	80	MHz	
Frequency Tolerance:		-25	-	25	ppm	1

MODEL HSM526

Frequency Range	(Fo)	1.8	-	80	MHz	
Frequency Tolerance:		-50	-	50	ppm	1

MODEL HSM536

Frequency Range	(Fo)	1.8	-	80	MHz	
Frequency Tolerance:		-100	-	100	ppm	1

OPERATING SPECIFICATIONS

PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Operating Temperature Range		0	-	70	°C	
Supply Voltage	(Vdd)	4.5	5.0	5.5	Vdc	
Supply Current	1.8 to 19.999 MHz 20 to 49.999 MHz 50 to 69.999 MHz 70 to 80.0 MHz	(Icc) (Icc) (Icc) (Icc)	- - - -	20 30 50 80	mA	

INPUT CHARACTERISTICS

Enable Voltage	(Vih)	2.2	-	-	Vdc	2
Disable Voltage	(Vil)	-	-	.08	Vdc	
Enable Time		-	-	100	nS	
Disable Time		-	-	100	nS	

HCMOS OUTPUT CHARACTERISTICS

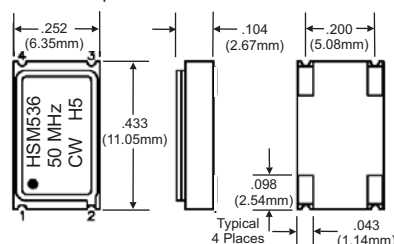
PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
LOAD		-	-	50	pF	
Voltage (High)	(Voh)	4.50	-	-	Vdc	
(Low)	(Vol)	-	-	0.50	Vdc	
Current (High)	(Ioh)	-16	-	-	mA	
(Low)	(Iol)	-	-	16	mA	
Duty Cycle at 50% of Vcc		45	50	55	%	
Rise / Fall Time 10% to 90%		-	-	5	nS	
Start-Up Time		-	-	10	mS	
Jitter (BW=10Hz to 20MHz)		-	-	5	ps rms	
Jitter (BW=12kHz to 20MHz)		-	-	1	ps rms	

PACKAGE CHARACTERISTICS

Package	Hermetically sealed ceramic package and metal cover
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Note:

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



PAD	CONNECTION
1	ENABLE/DISABLE
2	GROUND
3	OUTPUT
4	Vcc

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



HSM546, HSM516
HSM526, HSM536

DESCRIPTION

The Connor-Winfield models HSM546, HSM516, HSM526 and HSM536 are 5.0V HCMOS, Surface Mount, Fixed Frequency Crystal Oscillators (XO) designed for use in all applications requiring precision clocks over the 0 to 70°C, Commercial Temperature Range. The surface mount package is designed for high-density mounting and is optimum for mass production.

FEATURES

1.8 to 80 MHz

5.0V OPERATION

TRI-STATE ENABLE / DISABLE FUNCTION

OVERALL FREQUENCY TOLERANCE:

HSM546 ±20ppm

HSM516 ±25ppm

HSM526 ±50ppm

HSM536 ±100ppm

TEMPERATURE RANGE: 0 to 70°C

CERAMIC SURFACE MOUNT PACKAGE

TAPE AND REEL PACKAGING

RoHS COMPLIANT / Pb FREE

ORDERING INFORMATION

HSM536 - 50 MHz

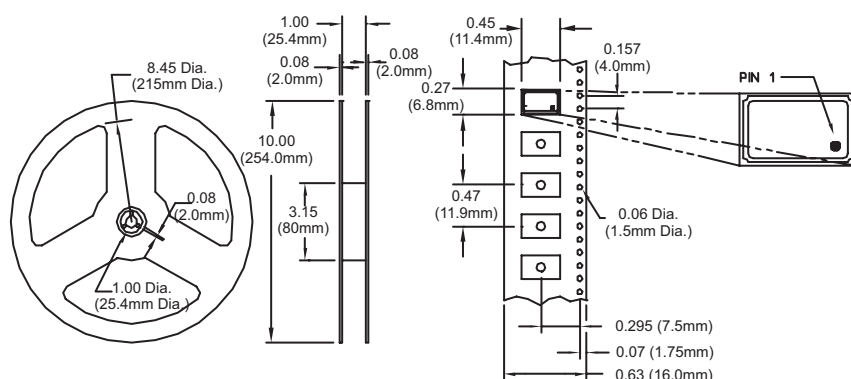
CLOCK
SERIES

CENTER
FREQUENCY

PRODUCT DATA SHEET

CRYSTAL CONTROLLED OSCILLATORS

ENVIRONMENTAL CHARACTERISTICS	TEST CIRCUIT
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 Flourinert (FC-43) at 125°C ±5°C, for 5 minutes. SOLVENT RESISTANCE: Marking will withstand immersion in Isopropyl Alcohol or Trichloroethylene.	
SOLDERING	OUTPUT WAVEFORM
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	
MECHANICAL CHARACTERISTICS	SUGGESTED PAD LAYOUT
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-RGX-0102/1D1 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%.	Bypass capacitor, C-by, should be ceramic capacitor ≥ .01uF.
TAPING AND REEL DIMENSIONS	SOLDER PROFILE



MEETS EIA-481A AND EIAJ-1009B
1000 PCS / REEL

