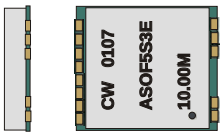
CONNOR WINFIELD

THE CONNOR-WINFIELD CORP.
2111 COMPREHENSIVE DRIVE.
AURORA, IL 60505.
FAX (630) 851-5040.
PHONE (630) 851-4722.
www.conwin.com

PRODUCT DATA SHEET

CRYSTAL CONTROLLED OSCILLATORS

SURFACE MOUNT STRATUM 3E HCMOS OCXO



ASOF5S3E

DESCRIPTION

The Connor-Winfield ASOF5S3E is a 5V Surface Mount Oven Controlled Crystal Oscillator (OCXO) with an HCMOS output. The ASOF5S3E is designed for Stratum 3E applications requiring low jitter and tight frequency stability.

FEATURES

SURFACE MOUNT PACKAGE

FIXED FREQUENCY OCXO

DESIGNED TO MEET STRATUM 3E REQUIREMENTS

FREQUENCY STABILITY ±10ppb

5.0V OPERATION

HCMOS OUTPUT

TAPE AND REEL PACKAGING

ABSOLUTE MAXIMUM RATINGS — TABLE 1.0

PARAMETER	UNITS	MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Storage Temperature		-40	-	85	°C	
Supply Voltage	(Vcc)	-0.5	-	7	Vdc	

OPERATING SPECIFICATIONS — TABLE 2.0

PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Center Frequency	(Fo)		10 12.8		MHz	1
Frequency Calibration		-4		4	ppm	2
Frequency Stability		-10	-	10	ppb	3
Aging: Daily		-1	-	1	ppb/day	4
Aging: First Year		-30	-	30	ppb	
Aging: Short Term (1Sec.)		-	5.00E-11	-	RMS	5
Aging: Long Term (20 Years)		-	-	300	ppb	
Operating Temperature Range		0	-	70	°C	
Supply Voltage	(Vcc)	4.75	5.00	5.25	Vdc	
Frequency vs. Voltage Stability (+/-1%)		-0.5	-	0.5	ppb	6
Frequency vs. Load Stability (+/-20%)		-0.5	-	0.5	ppb	7
Power Consumption: Turn On		-	-	2.75	W	8
Power Consumption: Steady-State		-	-	1. 50	W	8
Start-Up Time				500	mS	9
Warm Up		-100	-	100	ppb	10
2G Tip-over		-	5	-	ppb/G	
TDEV at 300 seconds		-	-	5	nS	11
TDEV at 40 seconds		-	-	1	nS	11

HCMOS OUTPUT CHARACTERISTICS — TABLE 3.0

PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
LOAD		12	15	18	pF	12
Voltage (High)	(Voh)	Vcc-0.2V	-	-	Vdc	
(Low)	(Vol)	-	-	0.2	Vdc	
Duty Cycle at 50% of Vcc		45	50	55	%	
Rise / Fall Time 10% to 90%		-	-	5	nS	
Spurious Output				-80	dBc	
Sub-Harmonics		-	-	-25	dBc	
SSB Phase Noise at 1Hz offset		-	-	-90	dBc/Hz	
SSB Phase Noise at 10Hz offset		-	-	-115	dBc/Hz	
SSB Phase Noise at 100Hz offset		-	-	-130	dBc/Hz	
SSB Phase Noise at 1KHz offset		-	-	-135	dBc/Hz	
SSB Phase Noise at 10KHz offset		-	-	-140	dBc/Hz	

RESTABILIZATION TIME — TABLE 4.0

Off Time	Restabilization Time	NOTE
< 1 Hour	< 2 Hours	13
< 6 Hours	< 12 Hours	13
< 24 Hours	< 48 Hours	13
1 to 16 Days	48 Hours + ¼ Off Time	13
> 16 Days	< 6 Days	13

PACKAGE CHARACTERISTICS — TABLE 5.0

Package	Non-hermetic package consisting of an FR4 substrate with grounded metal cover.

ENVIRONMNETAL CHARACTERISTICS — TABLE 6.0

Shock	100G's, 6mS, halfsine per MIL-STD-202F, Method 213B, Test Condition C
Vibration	0.06" D.A. or 10G peak 10 to 500 Hz, per MIL-STD-202F, Method 204D, Test condition A

PROCESS RECOMMENDATIONS — TABLE 7.0

Solder Reflow	The component solder used internal to this device has a melting point of 221°C. The peak temperature inside the device should be less than or equal to 220°C for a maximum of 10 seconds
Wash	Ultrasonic cleaning is not recommended.

Notes:

1) Labels will include the calibration frequency at the time of ship.
2) Initial calibration @ 25°C
3) Overall Frequency Stability, 0° to 70°C
4) After ten days of continuous operation.
5) Allen Variance: 1 second, 100 average.
6) Frequency vs. change in supply voltage.
7) Frequency vs. change in load.
8) Vcc = 5.0Vdc.
9) From Vcc=90% of final value. No more than 16 transitions at start-up before oscillator has started.
10) Measured @ 0°C, within 5 minutes, referenced one hour after turn-on.
11) At time of delivery.
12) HCMOS load.
13) For a given off time, the time required to meet daily aging, short-term stability and TDEV requirements.

ORDERING INFORMATION

ASOF5S3E - 10.00MHz

ASOF5S3E — OCXO SERIES
10.00MHz — CENTER FREQUENCY

Specifications subject to change without notice.

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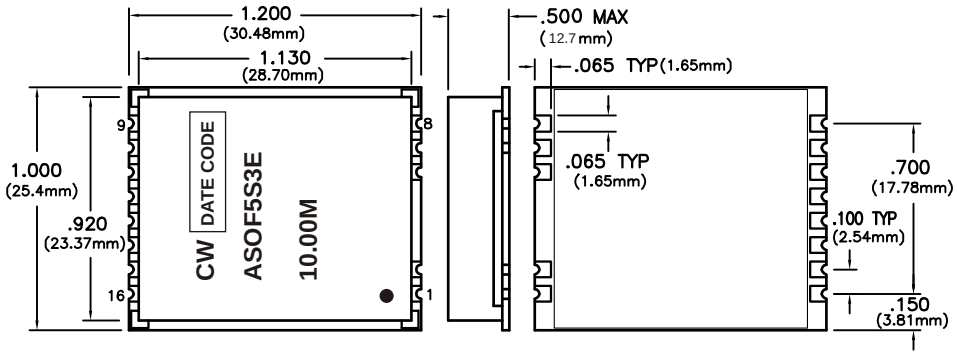
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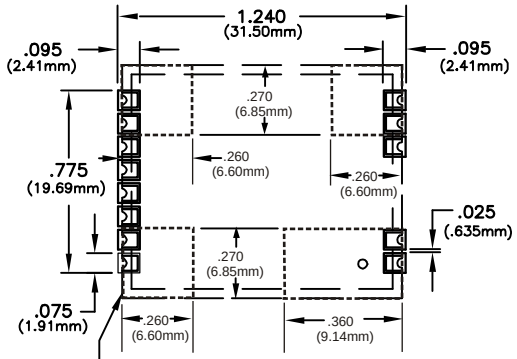
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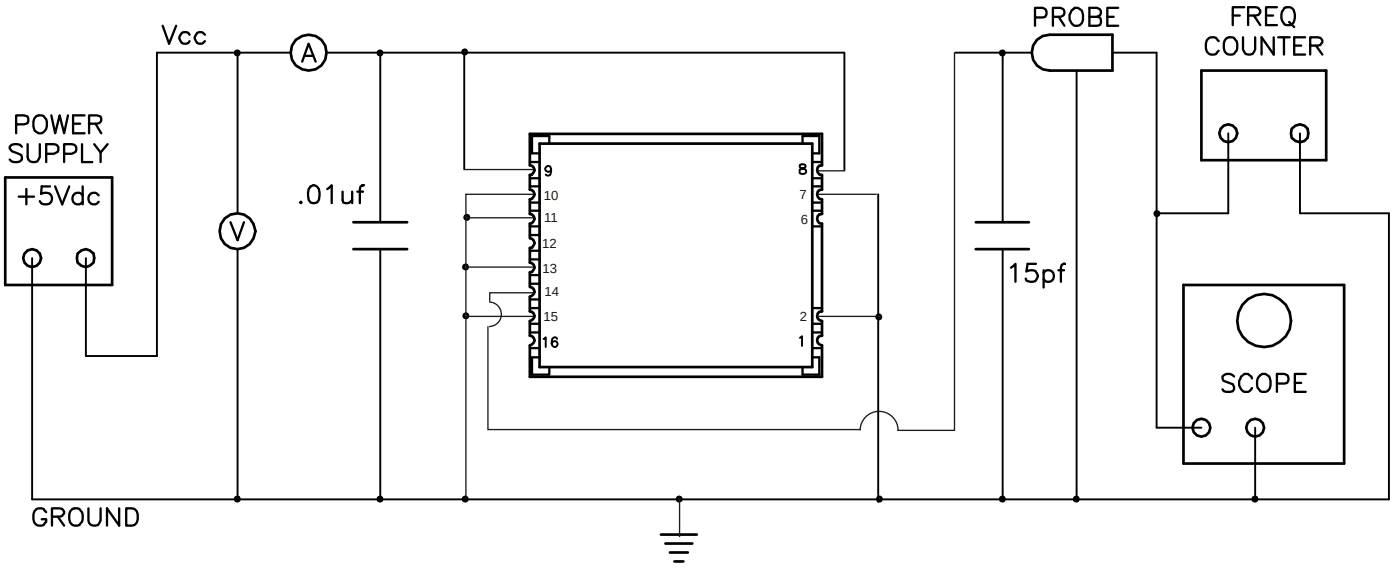
CRYSTAL CONTROLLED OSCILLATORS



PIN	FUNCTION
1	N/C
2	GROUND
6	N/C
7	GROUND
8	Vcc
9	Vcc
10	GROUND
11	GROUND
12	N/C
13	GROUND
14	OUTPUT
15	GROUND
16	N/C

SUGGESTED PAD LAYOUT
(TOP VIEW)





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