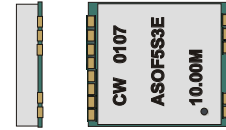


CRYSTAL CONTROLLED OSCILLATORS

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 ± 10 ppb
- 5.0V OPERATION
- HCMOS OUTPUT
- TAPE AND REEL PACKAGING

ORDERING INFORMATION

ASOF5S3E - 10.00MHz

OCXO
SERIES

CENTER
FREQUENCY

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	
Voltage (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	

RESTALLIZATION 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 + 1/4 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.
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ENVIRONMENTAL

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

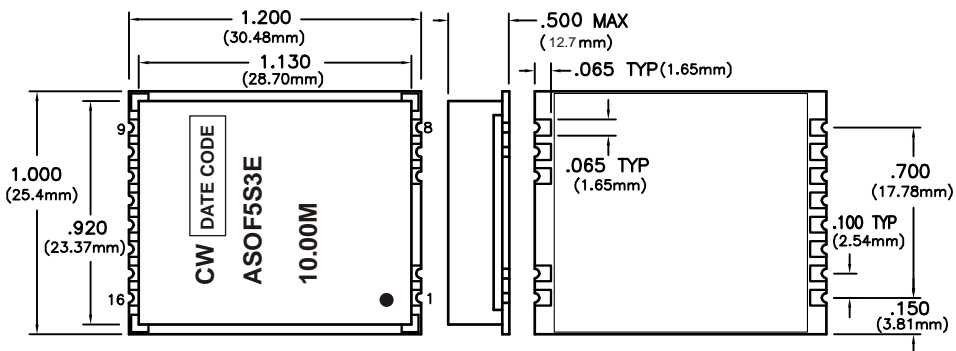
Solder Reflow	The component solder used internal to this device has a melting point of 221°C. The peak temperature inside the device should be less than or equal to 220°C for a maximum of 10 seconds
Wash	Ultrasonic cleaning is not recommended.

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.

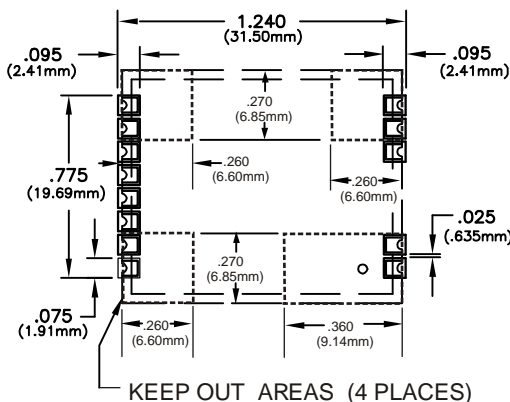
Specifications subject to change without notice.

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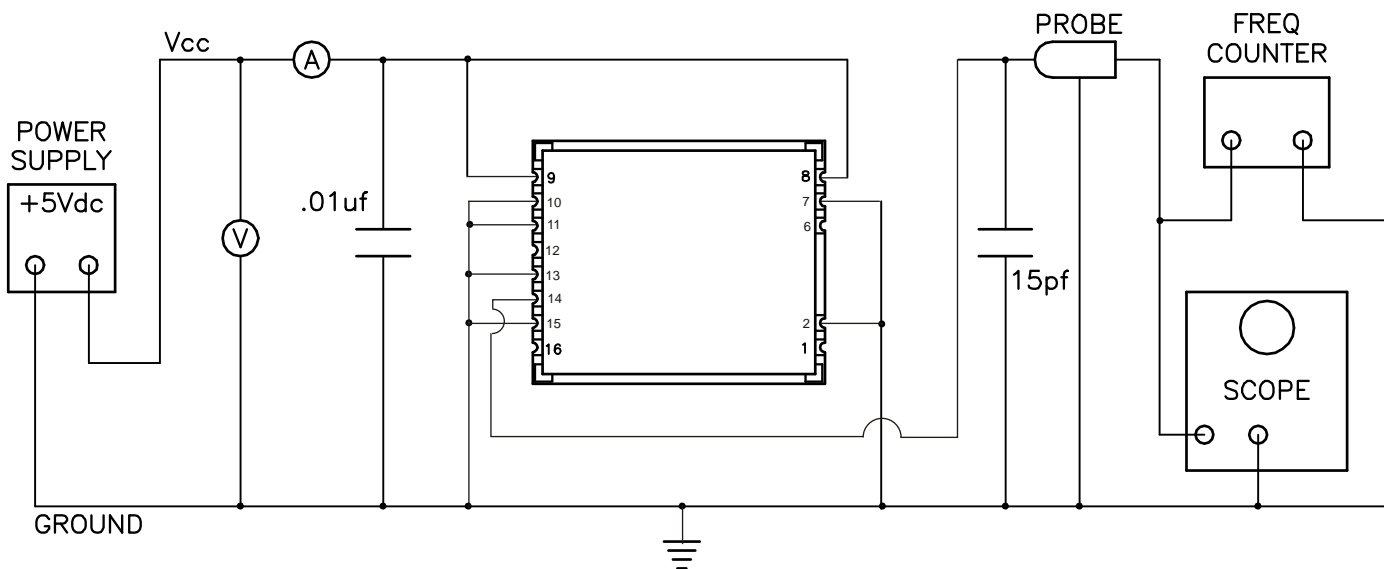


PIN	FUNCTION
1	N/C
2	GROUND
6	N/C
7	GROUND
8	Vcc
9	Vcc
10	GROUND
11	GROUND
12	N/C
13	GROUND
14	OUTPUT
15	GROUND
16	N/C

SUGGESTED PAD LAYOUT (TOP VIEW)



KEEP OUT AREAS (4 PLACES)



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