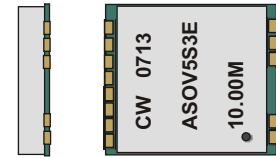


CRYSTAL CONTROLLED OSCILLATORS

SURFACE MOUNT STRATUM 3E HCMOS VCOCXO



ASOV5S3E

DESCRIPTION

The Connor-Winfield ASOV5S3E is a 5V Surface Mount Voltage Controlled Oven Controlled Crystal Oscillator (VCOCXO) with an HCMOS output. The ASOV5S3E is designed for Stratum 3E applications requiring low jitter and tight frequency stability.

FEATURES

- VARIABLE FREQUENCY, VCOCXO
- DESIGNED TO MEET STRATUM 3E REQUIREMENTS
- FREQUENCY STABILITY ± 10 ppb
- 5.0V OPERATION
- HCMOS OUTPUT
- SURFACE MOUNT PACKAGE
- TAPE AND REEL PACKAGING
- RoHS 5/6 COMPLIANT

ORDERING INFORMATION

ASOV5S3E - 10.00MHz
 OCOXO 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		-0.2		0.2	ppm	2
Frequency vs. Temperature 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	
Frequency vs. Load Stability (+/-20%)		-0.5	-	0.5	ppb	
Power Consumption: Turn On		-	-	2.75	W	6
Power Consumption: Steady-State		-	-	1.50	W	6
Start-Up Time				500	mS	7
Warm Up		-100	-	100	ppb	8
2G Tip-over		-	-	5	ppb/G	
TDEV at 300 seconds		-	-	5	nS	
TDEV at 40 seconds		-	-	1	nS	

INPUT CHARACTERISTICS

TABLE 3.0

PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Control Voltage (Pin 1)	Vc	0.5	2.5	4.5	Vdc	
Deviation @ 25°C referenced to Fo		± 0.3	-	± 1.0	ppm	9
Input Impedance (Pin 1)		50K	-	-	Ohm	

HCMOS OUTPUT CHARACTERISTICS

TABLE 4.0

PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
LOAD		12	15	18	pF	10
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	
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 5.0

Off Time	Restabilization Time	NOTE
< 1 Hour	< 2 Hours	11
< 6 Hours	< 12 Hours	11
< 24 Hours	< 48 Hours	11
1 to 16 Days	48 Hours + 1/2 Off Time	11
> 16 Days	< 6 Days	11

Specifications subject to change without notice.

CRYSTAL CONTROLLED OSCILLATORS

PACKAGE CHARACTERISTICS

TABLE 6.0

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

TABLE 7.0

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 8.0

Soldering Process	See solder profile
Wash	Ultrasonic cleaning is not recommended.

Notes:

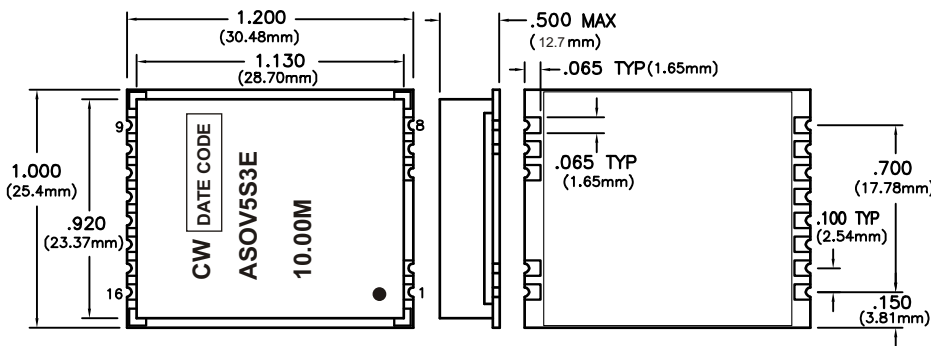
- Labels will include the calibration frequency at the time of ship.
- Initial calibration @ 25 C at the time of shipment, Vc=2.5Vdc.
- Overall frequency stability, 0 to 70 C.
- After ten days of continuous operation.
- Allen Variance: 1 second, 100 average.
- Vcc = 5.0Vdc.
- From Vcc=90% of final value. No more than 16 transitions at start-up before oscillator has started.
- Measured @ 0 C, within 5 minutes, referenced one hour after turn-on.
- Positive slope
- HCMOS load.
- For a given off time, the time required to meet daily aging, short-term stability and TDEV requirements.

Pin Connections

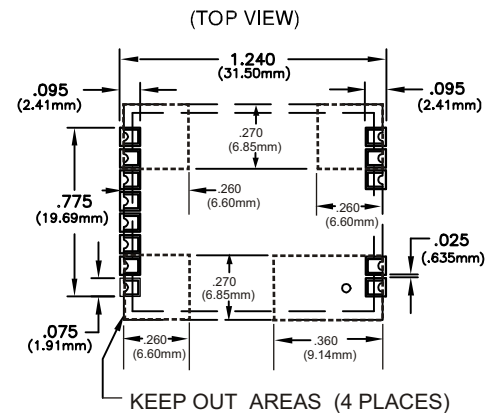
Pin	Function
1	Control Voltage
2	Ground
6	N/C
7	Ground
8	Vcc
9	Vcc
10	Ground
11	Ground
12	N/C
13	Ground
14	Output
15	Ground
16	N/C

Dimensional Tolerance:
±.005 (.127mm)

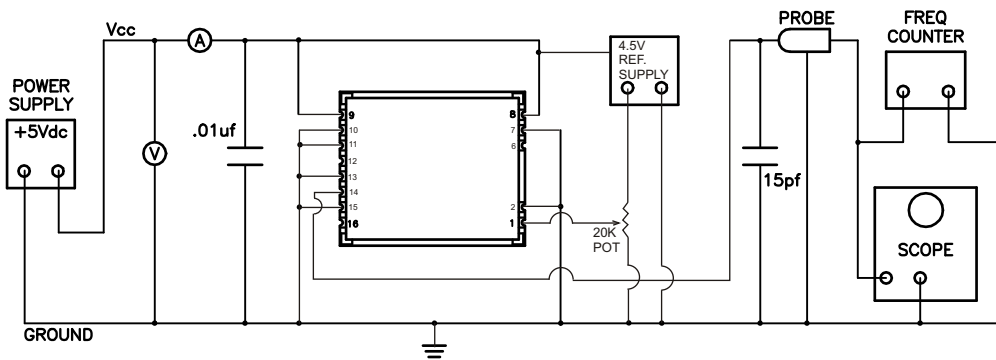
Package Layout



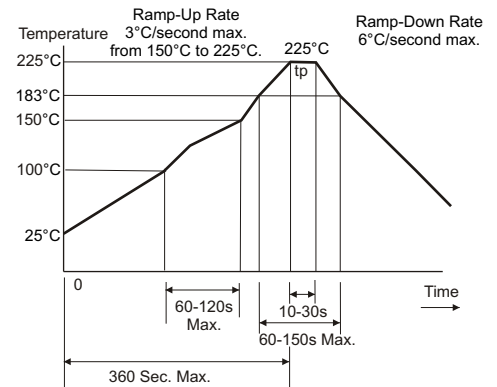
Suggested Pad Layout



Test Circuit



Solder Profile



Specifications subject to change without notice.