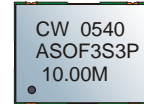


CRYSTAL CONTROLLED OSCILLATORS

3.3V SURFACE MOUNT STRATUM 3 PLUS HCMOS OCXO



ASOF3S3P

ABSOLUTE MAXIMUM RATINGS

TABLE 1.0

PARAMETER	UNITS	MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Storage Temperature		-40	-	85	°C	
Supply Voltage	(Vcc)	-0.5	-	4.5	Vdc	

OPERATING SPECIFICATIONS

TABLE 2.0

PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Center Frequency	(Fo)	9.00	-	20.00	MHz	
Frequency Calibration		-0.30	-	0.30	ppm	1
Frequency vs. Change in Temperature		-0.21	-	0.21	ppm	2
Frequency vs. Change in Supply Voltage		-0.05	-	0.05	ppm	3
Frequency vs. Change in Load		-0.02	-	0.02	ppm	4
Frequency Aging Daily		-	-	8	ppb/day	
Frequency Aging per year		-0.5	-	0.5	ppm	
Total Frequency Tolerance		-1.5	-	1.5	ppm	5
Operating Temperature Range		0	-	70	°C	
Supply Voltage	(Vcc)	3.13	3.30	3.47	Vdc	
Supply Current	(Icc)	-	-	450	mA	
Supply Current Steady State @25°C	(Icc)	-	180	-	mA	
Allan Variance (1 second)		-	5.00E-10	-		
Phase Jitter (10Hz to 20 MHz)		-	-	1	ps RMS	
Period Jitter		-	-	3	ps RMS	
SSB Phase Noise at 1Hz offset		-	-70	-	dBc/Hz	
SSB Phase Noise at 10Hz offset		-	-100	-	dBc/Hz	
SSB Phase Noise at 100Hz offset		-	-125	-	dBc/Hz	
SSB Phase Noise at 1KHz offset		-	-140	-	dBc/Hz	
SSB Phase Noise at 10KHz offset		-	-150	-	dBc/Hz	
Warm Up Time		-	-	5	Minutes	6
Retrace		-0.3	-	0.3	ppm	7
TDEV @ 1.0 Sec.		-	-	1	nS	
TDEV @ 4.0 Sec.		-	-	2	nS	

HCMOS OUTPUT CHARACTERISTICS

TABLE 3.0

PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
LOAD		12	15	18	pf	
Voltage (High)	(Voh)	2.6	-	-	Vdc	8
(Low)	(Vol)	-	-	0.4	Vdc	8
Current (High)	(Ioh)	-4	-	-	mA	
(Low)	(Iol)	-	-	4	mA	
Duty Cycle at 50% of Vcc		45	50	55	%	
Rise / Fall Time 10% to 90%		-	-	6	nS	

PACKAGE CHARACTERISTICS

TABLE 4.0

Package	Surface Mount, Non-hermetic package consisting of an FR4 substrate with grounded metal cover.
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PROCESS RECOMMENDATIONS

TABLE 5.0

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) Initial calibration @ 25°C at time of shipment.
- 2) Frequency vs. temperature stability, 0 to 70°C absolute.
- 3) Frequency stability per 5% change in supply voltage.
- 4) Frequency stability per 5% change in load
- 5) Inclusive of calibration, operating temperature range, supply voltage change, load change, shock and vibration and aging over 20 years.
- 6) Measured @ 25°C, within 5 minutes, the unit will be within +/-0.5ppm of nominal.
- 7) 24 hours off then 60 minutes on at a constant temperature and voltage.
- 8) Supply voltage at 3.3 Vdc.

DESCRIPTION

The Connor-Winfield ASOF3S3P is a surface mount, 3.3V Oven Controlled Crystal Oscillator (OCXO) with a HCMOS / TTL compatible output. The ASOF3S3P is designed for higher frequency stability Stratum 3 Plus applications requiring low jitter and tight frequency calibration.

FEATURES

3.3V OPERATION

LOW JITTER < 1ps RMS

FREQUENCY STABILITY ±0.21ppm

TEMPERATURE RANGE: 0 to 70°C

OVERALL FREQUENCY TOLERANCE : ±1.5ppm over Twenty Years.

SURFACE MOUNT PACKAGE

TAPE AND REEL PACKAGING

ORDERING INFORMATION

ASOF3S3P - 10.00MHz

OCXO SERIES

CENTER FREQUENCY

Specifications subject to change without notice.

CRYSTAL CONTROLLED OSCILLATORS

ENVIRONMENTAL CHARACTERISTICS

Temperature Cycle: Per MIL-STD-883, Method 1010, Condition B. -55°C to 125°C, 20 cycles, 10 minute dwell, 1 minute transition.

SOLDERING

Pad Solderability: Per MIL-STD-883, Method 2003. 8 hour steam age prior to 245°C ±5°C Solder pot dip, 95% Coverage.

Solder Reflow: The component solder 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.

MECHANICAL CHARACTERISTICS

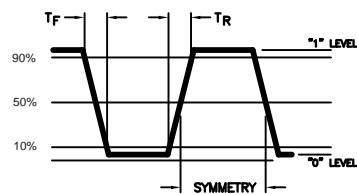
Vibration: Per MIL-STD-202, Method 204, Condition A. 10G's peak, 10Hz to 500Hz, 15 minute cycles 12 times each perpendicular axis.

Shock: Per MIL-STD-202, Method 213, Condition D. 500G's, 1ms, half sine, 3 shocks per direction.

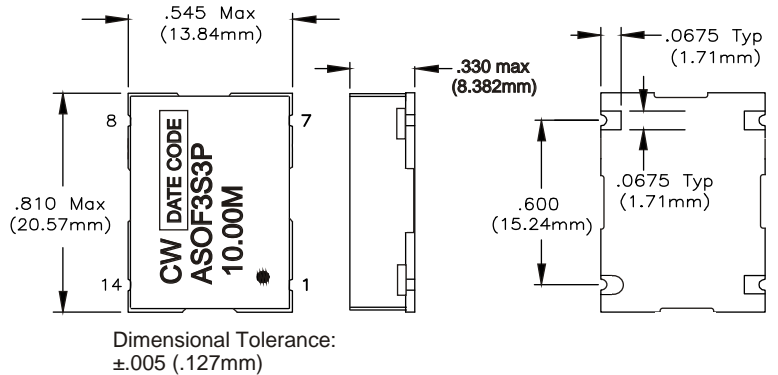
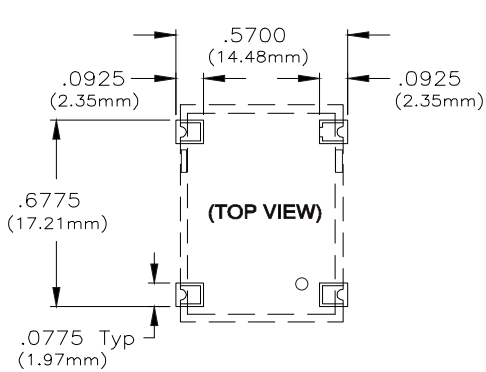
Moisture Resistance: Per MIL-STD-202, Method 106. 95% RH @ 65°C, 10 cycles 10°C to 65°C.

Pin	Connection
1	N/C
7	Ground (Case)
8	Output
14	Vcc

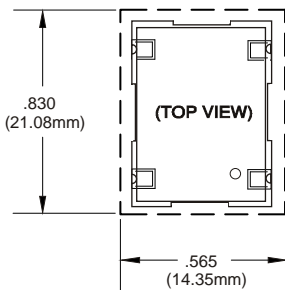
OUTPUT WAVEFORM



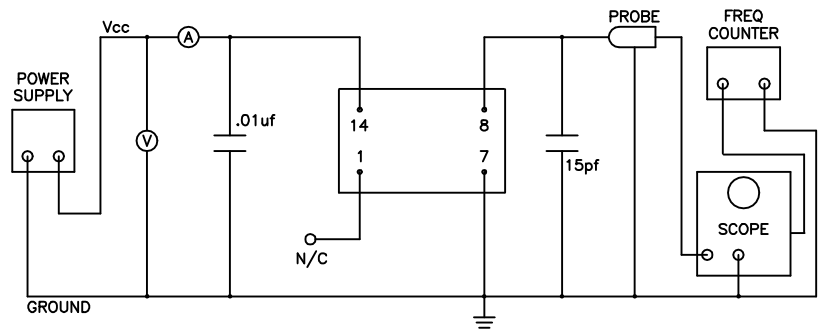
SUGGESTED PAD LAYOUT



KEEP OUT AREA



TEST DIAGRAM



Specifications subject to change without notice.