CONNOR WINFIELD

THE CONNOR-WINFIELD CORP.
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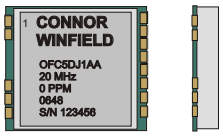
PRODUCT DATA SHEET

RoHS-5/6 COMPLIANT

CRYSTAL CONTROLLED OSCILLATORS

SURFACE MOUNT HIGH STABILITY HCMOS OCXO



OFC5DJ1AA

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)		20		MHz	1
Frequency Calibration		-1.5		1.5	ppm	2
Frequency Stability		-20	-	20	ppb	3
Aging: Daily		-2	-	2	ppb/day	4
Aging: First Year		-80	-	80	ppb	
Aging: Short Term (1Sec.)		-	5.00E-11	-	RMS	5
Aging: Long Term (20 Years)		-300	-	300	ppb	
Operating Temperature Range		0	-	70	°C	
Supply Voltage	(Vcc)	4.75	5.00	5.25	Vdc	
Frequency vs. Voltage Stability (+/-5%)		-5	-	5	ppb	6
Frequency vs. Load Stability (+/-20%)		-2	-	2	ppb	7
Power Consumption: Turn On		-	-	3.00	W	8
Power Consumption: Steady-State		-	-	1. 50	W	8
Start-Up Time				500	mS	9
Warm Up		-100	-	100	ppb	10

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	
SSB Phase Noise at 1Hz offset		-	-80	-	dBc/Hz	
SSB Phase Noise at 10Hz offset		-	-110	-	dBc/Hz	
SSB Phase Noise at 100Hz offset		-	-135	-	dBc/Hz	
SSB Phase Noise at 1KHz offset		-	-145	-	dBc/Hz	
SSB Phase Noise at 10KHz offset		-	-150	-	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.

DESCRIPTION

The Connor Winfield OFC5DJ1AA is a 5V Surface Mount Oven Controlled Crystal Oscillator (OCXO) with an HCMOS output. The OFC5DJ1AA is designed for high frequency stability applications requiring low jitter and tight frequency stability.

FEATURES

FIXED FREQUENCY OCXO

5.0V OPERATION

FREQUENCY STABILITY: +/-20ppb

TEMPERATURE RANGE: 0 TO 70C

HCMOS OUTPUT

SURFACE MOUNT PACKAGE

TAPE AND REEL PACKAGING

RoHS 5/6 COMPLIANT

ORDERING INFORMATION

OFC5DJ1AA - 20.00MHz

OCXO SERIES

CENTER FREQUENCY

Specifications subject to change without notice.

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Notes:

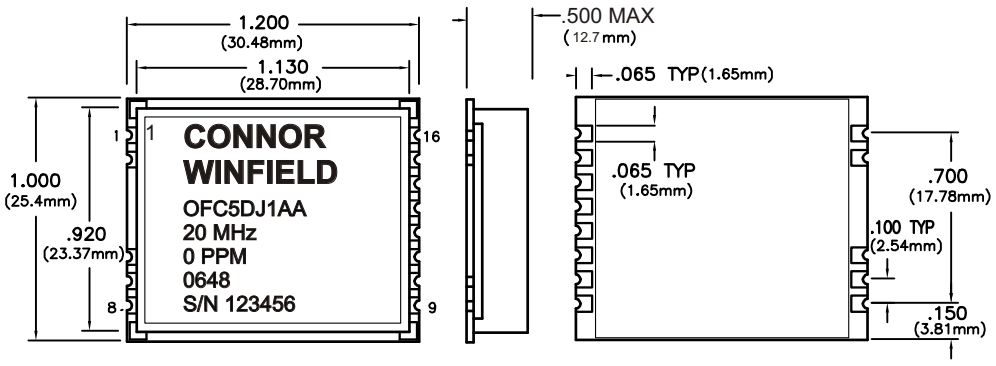
1) Labels will include the calibration frequency at the time of ship.
2) Initial calibration @ 25 C
3) Frequency vs. temperature stability, -20 to 70 C, referenced @ 25 C.
4) After ten days of continuous operation.
5) Allen Variance: 1 second, 100 average.
6) Frequency vs. change in supply voltage.
7) 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 @ -20 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

Pin Connections

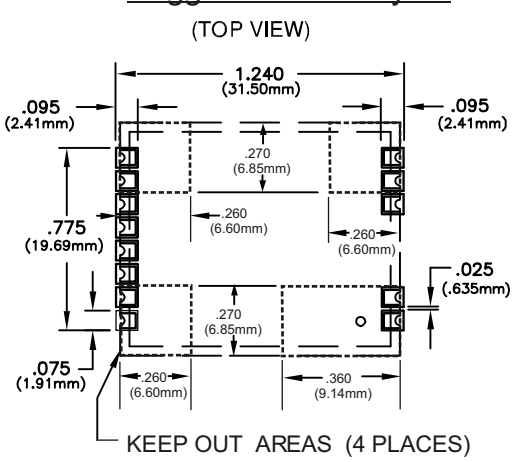
TABLE 8.0

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

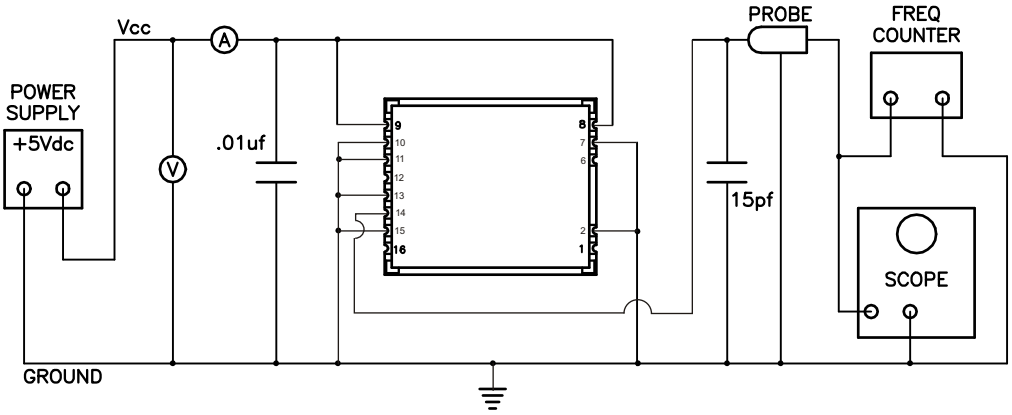
Package Outline



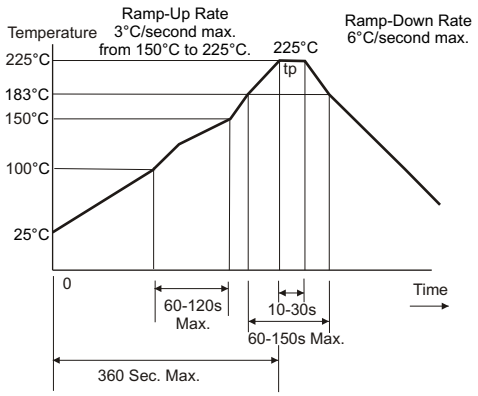
Suggested Pad Layout



Test Circuit



Solder Profile



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