

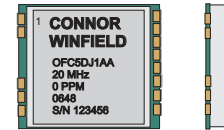
CRYSTAL CONTROLLED OSCILLATORS

SURFACE MOUNT HIGH STABILITY HCMOS OCXO

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	



OFC5DJ1AA

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

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.

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	

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 + 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.
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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.

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.

CRYSTAL CONTROLLED OSCILLATORS

Notes:

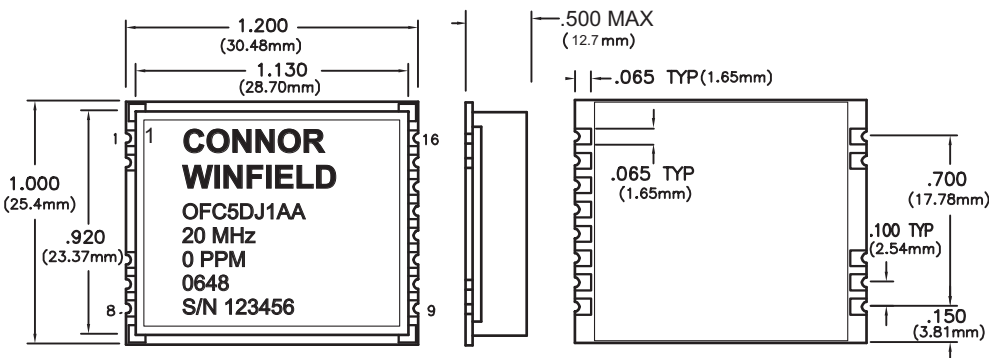
- 1) Labels will include the calibration frequency at the time of ship.
- 2) Initial calibration @ 25°C
- 3) Frequency vs. temperature stability, 0 to 70°C, referenced @ 25°C.
- 4) After ten days of continuous operation.
- 5) Allen Variance: 1 second, 100 average.
- 6) Frequency vs. change in supply 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 @ 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

Pin Connections

TABLE 8.0

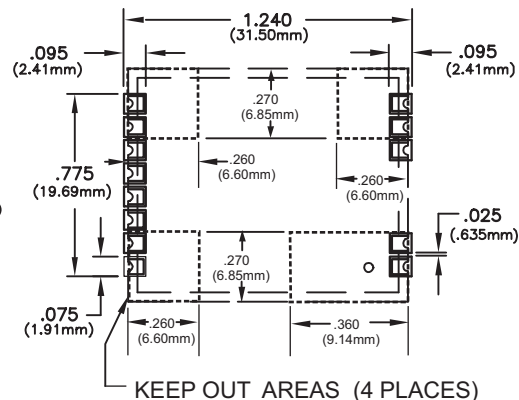
Pin	Function
1	N/C
2	Ground
6	N/C
7	Ground
8	Vcc
9	Vcc
10	Ground
11	Ground
12	N/C
13	Ground
14	Output
15	Ground
16	N/C

Package Outline

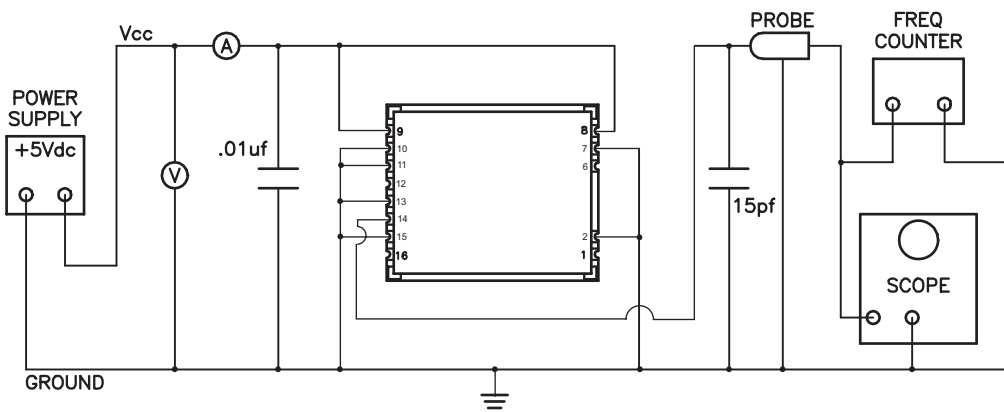


Suggested Pad Layout

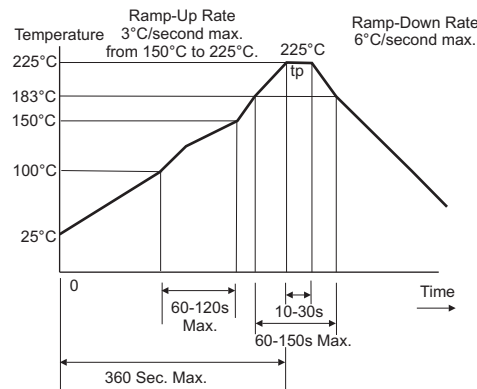
(TOP VIEW)



Test Circuit



Solder Profile



Specifications subject to change without notice.