CONNOR WINFIELD

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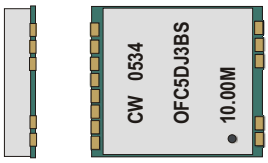
PRODUCT DATA SHEET

RoHS-5/6 COMPLIANT

CRYSTAL CONTROLLED OSCILLATORS

SURFACE MOUNT 5.0V OCXO with SINEWAVE OUTPUT



OFC5DJ3BS

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	-	20	MHz	1
Standard Frequencies Available:		10 MHZ, 13 MHz, 15 MHZ, or 20 MHz				
Frequency Calibration		-0.2		0.2	ppm	2
Frequency vs. Temperature Stability		-20	-	20	ppb	3
Frequency vs. Voltage Stability (+/-5%)		-2	-	2	ppb	
Frequency vs. Load Stability (+/-5%)		-2	-	2	ppb	
Aging: Daily		-1	-	1	ppb/day	4
Aging: First Year		-50	-	50	ppb	
Aging: Long Term (20 Years)		-250	-	250	ppb	
Total Frequency Tolerance (20 years)		-500	-	500	ppb	5
Allen Variance: 1 second, 100 average.		-	1.00E-10	-	RMS	
Operating Temperature Range		-20	-	70	°C	
Supply Voltage	(Vcc)	4.75	5.00	5.25	Vdc	
Power Consumption: Turn On		-	-	3.75	W	6
Power Consumption: Steady-State		-	-	1. 5	W	6
Start-Up Time				500	mS	7
Warm Up		-100	-	100	ppb	8

SINEWAVE OUTPUT CHARACTERISTICS

TABLE 3.0

PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
LOAD		45	50	55	Ohms	
Output Power		0	3	-	dBm	
Spurious Output				-80	dBc	
SSB Phase Noise at 1Hz offset		-	-85	-	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		-	-150	-	dBc/Hz	
SSB Phase Noise at 10KHz offset		-	-155	-	dBc/Hz	

RESTABILIZATION TIME

TABLE 4.0

Off Time	Restabilization Time	NOTE
< 1 Hour	< 2 Hours	9
< 6 Hours	< 12 Hours	9
< 24 Hours	< 48 Hours	9
1 to 16 Days	48 Hours + ¼ Off Time	9
> 16 Days	< 6 Days	9

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 OFC5DJ3BS is a 5V Surface Mount Oven Controlled Crystal Oscillator (OCXO) with a Sinewave output. The OFC5J3BS is designed for Wireless applications requiring low Phase Noise and tight frequency stability.

FEATURES

FIXED FREQUENCY OCXO

FREQUENCY STABILITY: ±20ppb

TEMERATURE RANGE: -20 to 70°C

5.0V OPERATION

SINEWAVE OUTPUT

LOW PHASE NOISE

SURFACE MOUNT PACKAGE

TAPE AND REEL PACKAGING

ORDERING INFORMATION

OFC5DJ3BS - 10.00MHz

OCXO SERIES

CENTER FREQUENCY

Specifications subject to change without notice.

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Notes:

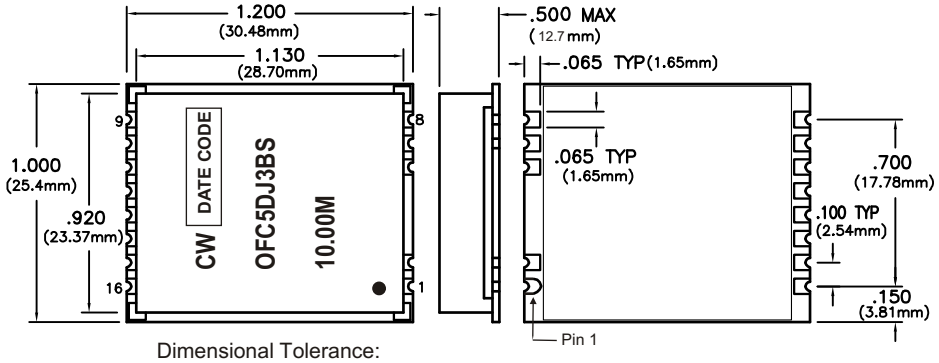
1) Labels will include the calibration frequency at the time of ship.
2) Initial calibration @ 25°C at the time of shipment.
3) Overall frequency stability referenced to measurement at 25°C.
4) After ten days of continuous operation.
5) Inclusive of calibration, frequency stability vs. change in temperature, supply voltage change, load change, hock and vibration, 20 years aging.
6) Vcc = 5.0Vdc.
7) From Vcc=90% of final value. No more than 16 transitions at start-up before oscillator has started.
8) Measured @ 0°C, within 5 minutes, referenced one hour after turn-on.
9) For a given off time, the time required to meet daily aging, short-term stability.

PIN CONNECTIONS

TABLE 8.0

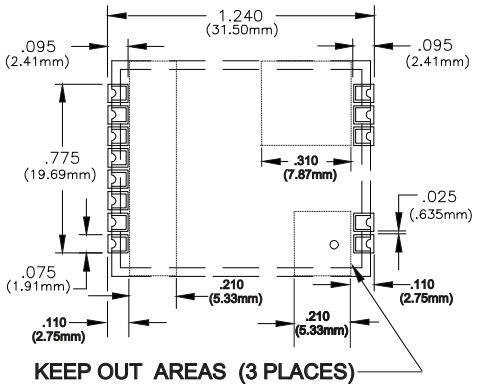
Pin	Function
1	N/C
2	Ground
6	N/C
7	Ground
8	Vcc
9	Vcc
10	Ground
11	Ground
12	N/C
13	Ground
14	Output
15	Ground
16	N/C

PACKAGE LAYOUT



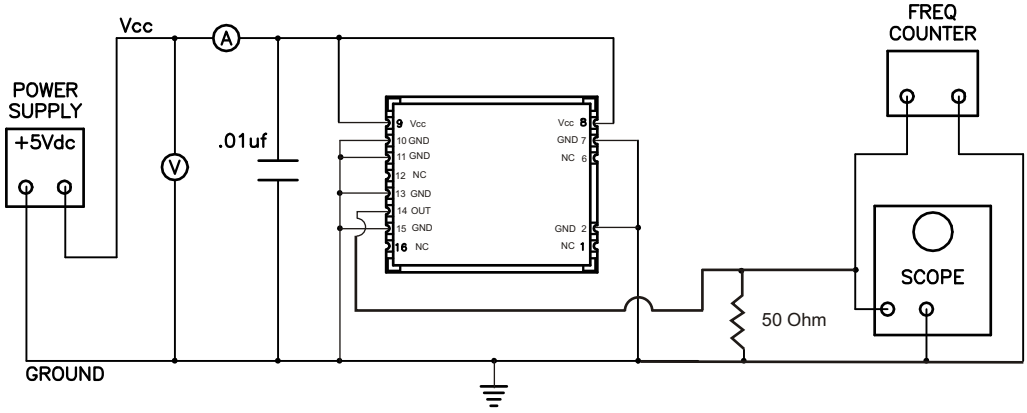
Dimensional Tolerance:
±.005 (.127mm)

SUGGESTED PAD LAYOUT
(TOP VIEW)

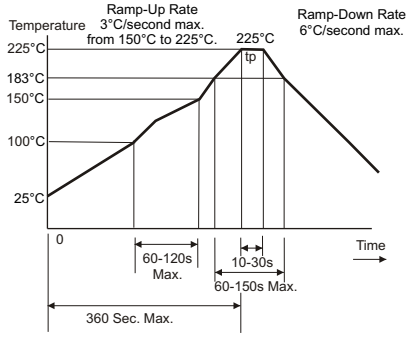


KEEP OUT AREAS (3 PLACES)

TEST CIRCUIT



SOLDER PROFILE



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