CONNOR WINFIELD

THE CONNOR-WINFIELD CORP.
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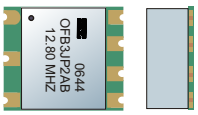
RoHS COMPLIANT

PRODUCT DATA SHEET

CRYSTAL CONTROLLED OSCILLATORS

3.3V SURFACE MOUNT LVCMOS STRATUM 3 OCXO



OFB3JP2AB

ABSOLUTE MAXIMUM RATINGS

TABLE 1.0

PARAMETER	UNITS	MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Storage Temperature		-55	-	125	°C	
Supply Voltage	(Vcc)	-0.5	-	4.5	Vdc	

OPERATING SPECIFICATIONS

TABLE 2.0

PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Center Frequency	(Fo)	1.544	-	20.0	MHz	
Frequency Calibration		-0.5		0.5	ppm	1,4
Frequency Stability		-0.20	-	0.20	ppm	2
Total Frequency Tolerance		-4.6	-	4.6	ppm	3
Aging (Daily)		-10	-	10	ppb	4
Aging (1st year)		-0.5		0.5	ppm	
Aging (20 years)		-4.0		4.0	ppm	
Operating Temperature Range		-40	-	85	°C	
Supply Voltage	(Vcc)	3.135	3.3	3.465	Vdc	
Supply Current	(Icc)	-	-	700	mA	
Jitter (BW =10KHz to Fo/2)		-	-	1	ps RMS	
SSB Phase Noise at 1 Hz offset		-	-60	-	dBc/Hz	
SSB Phase Noise at 10 Hz offset		-	-90	-	dBc/Hz	
SSB Phase Noise at 100 Hz offset		-	-120	-	dBc/Hz	
SSB Phase Noise at 1 KHz offset		-	-140	-	dBc/Hz	
SSB Phase Noise at 10 KHz offset		-	-145	-	dBc/Hz	
SSB Phase Noise at 100 KHz offset		-	-150	-	dBc/Hz	
Start-Up Time: Oscillator		-	-	50	ms	
Warm Up Time		-	-	5	Minutes	5

LVCMOS OUTPUT CHARACTERISTICS

TABLE 3.0

PARAMETER			MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
LOAD			12	15	18	pF	
Voltage	(High)	(Voh)	3.0	-	-	Vdc	
	(Low)	(Vol)	-	-	0.4	Vdc	
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.

PROCESS RECOMMENDATIONS

TABLE 5.0

Soldering Process	See solder profile on page 2.
Wash	Ultrasonic cleaning is not recommended

Notes:

1) Initial calibration @ 25 C
2) Frequency vs. temperature stability, peak to peak, -40 to 85 C.
3) Inclusive of calibration, operating temperature range, supply voltage change, shock and vibration and aging (20 years).
4) Specifications at time of shipment after 48 hours of operation.
5) Measured @ 25 C, within 5 minutes, the unit will be within +/-0.1ppm of its reference frequency, measured after 30 minutes of continuous operation at a stable 25 C.

DESCRIPTION

The Connor-Winfield OFB3JP2AB is a true Surface Mount 3.3V Oven Controlled Crystal Oscillator (OCXO) with an LVCMOS output. The OFB3JP2AB is designed for Stratum 3 applications requiring tight frequency stability and low jitter.

FEATURES

FIXED FREQUENCY OCXO

3.3V OPERATION

LOW JITTER <1pS RMS

FREQUENCY STABILITY: ±0.20ppm

TEMPERATURE RANGE: -40 to 85°C

FREQUENCY TOLERANCE: ±4.6ppm OVER 20 YEARS

SURFACE MOUNT PACKAGE

TAPE AND REEL PACKAGING

RoHS COMPLIANT / LEAD FREE

ORDERING INFORMATION

OFB3JP2AB - 012.8M

OCXO SERIES

CENTER FREQUENCY

Specifications subject to change without notice.

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ENVIRONMENTAL CHARACTERISTICS

Temperature Cycle: Per MIL-STD-883, Method 1010, Condition B. -55°C to 125°C, 300 cycles, 10 minute dwell, 1 minute transition.

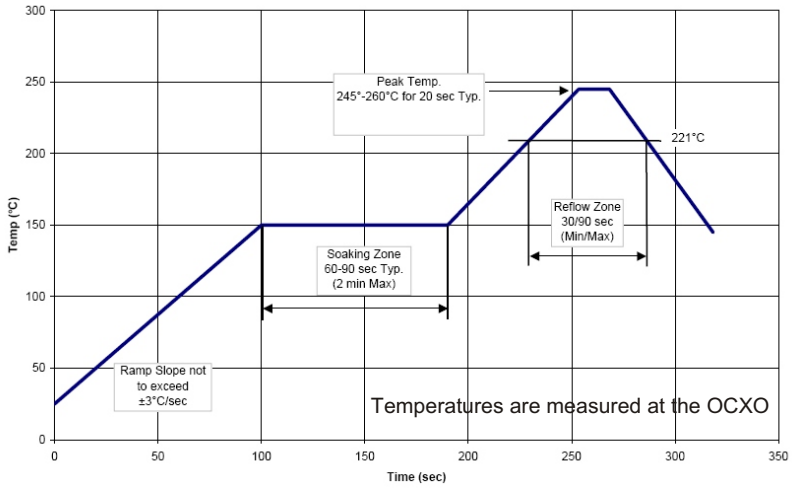
MECHANICAL CHARACTERISTICS

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 F. 1500G's, 1.0ms, 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.

Solder Profile

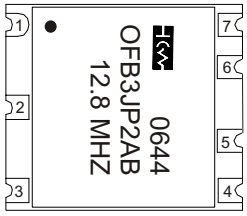


Pin Connections

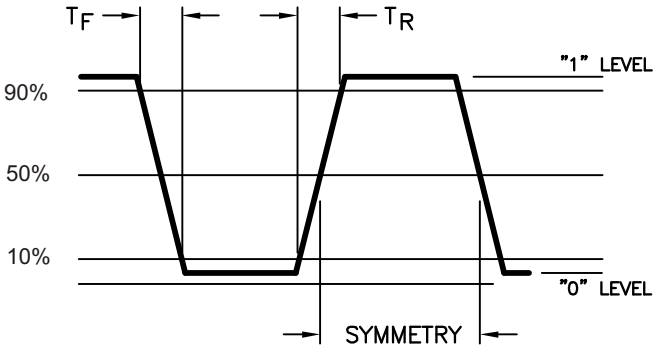
TABLE 6.0

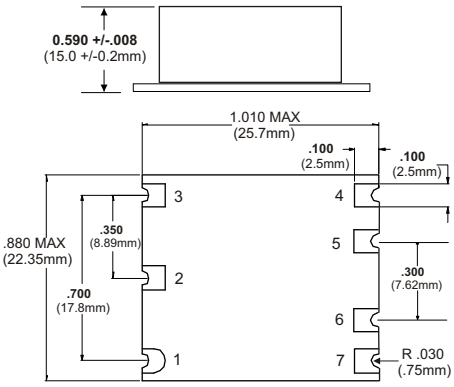
Pin	Function
1	N/C
2	N/C
3	Vcc
4	Output
5	N/C
6	N/C
7	Ground (Case)

Package Drawing

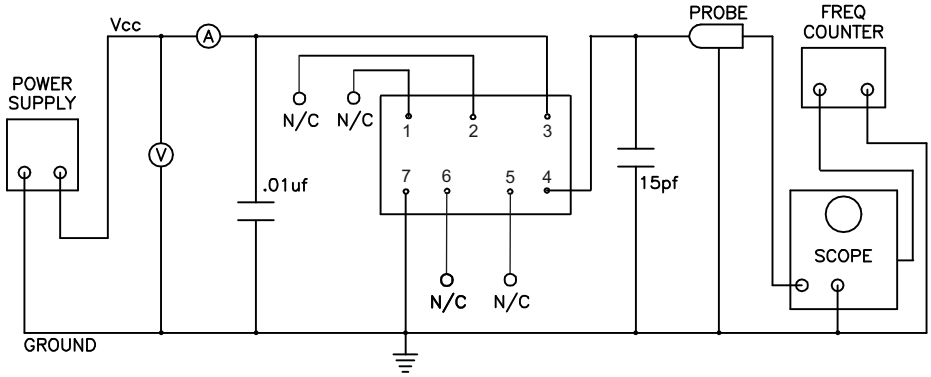


Output Waveform

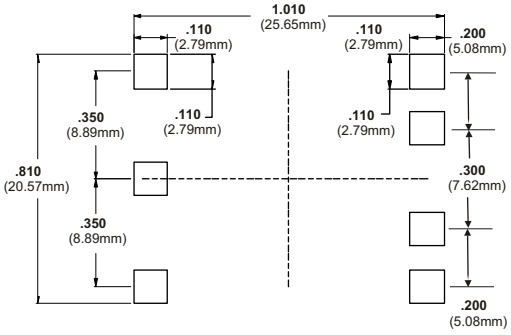




Test Circuit



Suggested Pad Layout



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