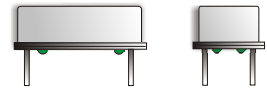


PRODUCT DATA SHEET

CRYSTAL CONTROLLED OSCILLATORS

14 PIN DIP 3.3V LVMOS STRATUM 3 OCVCXO



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	
Control Voltage	(Vc)	-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, Vc=1.48 Vdc		-1.5	-	1.5	ppm	1
Frequency Stability		-	-	0.25	ppm	2
Aging (Daily)		-30	-	30	ppb	3
Aging (20 Years)		-2.5	-	2.5	ppm	
Total Frequency Tolerance		-4.6	-	4.6	ppm	4
Operating Temperature Range		0	-	70	°C	
Supply Voltage	(Vcc)	3.135	3.3	3.465	Vdc	
Supply Current	(Icc)	-	-	450	mA	
Phase Jitter (BW=12KHz to 20MHz)		-	-	1	ps rms	
Phase Jitter (BW=10Hz to 20MHz)		-	-	3	ps rms	
Period Jitter		-	-	5	ps rms	
SSB Phase Noise at 10Hz offset		-	-90	-	dBc/Hz	
SSB Phase Noise at 10KHz offset		-	-150	-	dBc/Hz	
Start Up Time: Oscillator		-	-	35	mS	
Warm Up Time		-	-	5	Minutes	5
TDEV @ 1.0 Sec.		-	-	1	nS	
TDEV @ 4.0 Sec.		-	-	2	nS	

INPUT CHARACTERISTICS

TABLE 3.0

PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Control Voltage Range	(Vc)	0.3	1.48	3.0	Vdc	
Frequency at Vc=0.3 Vdc		-22.5	-	-13.5	ppm	6
Frequency at Vc=3.0 Vdc		13.5	-	22.5	ppm	6
Slope of Frequency Adjust		10	-	-	ppm/V	
Input Impedance		100k	-	-	Ohm	

LVMOS OUTPUT CHARACTERISTICS

TABLE 4.0

PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
LOAD		-	-	15	pf	
Voltage (High)	(Voh)	2.6	-	-	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 5.0

Package	14 pin DIP, hermetically sealed, grounded case, welded package
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OVA3AB1AA

DESCRIPTION

The Connor-Winfield OVA31AB1AA is a hermetically sealed 14 Pin DIP 3.3V Oven Controlled Voltage controlled Crystal Oscillator (OCVCXO) with an LVMOS output. The OVA31AB1AA is designed for Stratum 3 applications requiring low jitter and tight frequency stability.

FEATURES

3.3V OPERATION

VOLTAGE CONTROLLED FREQUENCY ADJUST

LOW JITTER <1ps RMS

FREQUENCY STABILITY: 0.25ppm

OVERALL FREQUENCY TOLERANCE: ±4.6ppm OVER TWENTY YEARS

TEMPERATURE RANGE: 0 to 70°C

HERMETICALLY SEALED 14 PIN PACKAGE

RoHS COMPLIANT / LEAD FREE

ORDERING INFORMATION

OVA3AB1AA - 019.44M

OCXO
SERIES

CENTER
FREQUENCY

Specifications subject to change without notice.

CRYSTAL CONTROLLED OSCILLATORS

Notes:

- 1) Initial calibration @ 25°C, Vc=1.48 Vdc.
- 2) Frequency stability vs. change in temperature, 0 to 70°C, peak to peak.
- 3) At the time of shipment after 48 hours of operation.
- 4) Inclusive of calibration, operating temperature range, supply voltage change, load change, shock and vibration, 20 years aging, Vc=1.48 Vdc.
- 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
- 6) Referenced to Fo @ 25°C, positive transfer characteristic.

ENVIRONMENTAL CHARACTERISTICS

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

Gross Leak Test: Per MIL-STD-202, Method 112, Condition D. No Bubbles in flourinert (FC-43) at 125°C ±5°C for 20 seconds.

SOLDERING

Pin Solderability: Per MIL-STD-883, Method 200. 8 hour steam age prior to 254°C ±5°C Solder pot dip, 95% Coverage.

Resistance to Solder Heat: Per MIL-STD-202, Method 210, Condition C. Wave: Toppide board-mount product, 260°C ±5°C for 20 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.

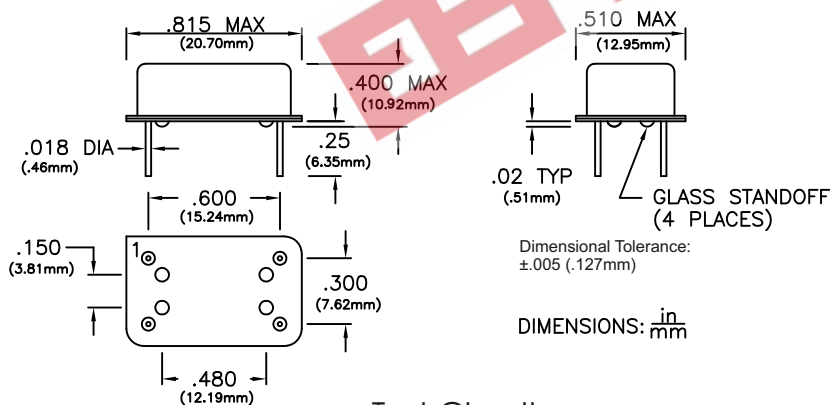
Shock: Per MIL-STD-202, Method 213, Condition F. 1500G's, 0.5ms, half sine, 3 shocks per direction.

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

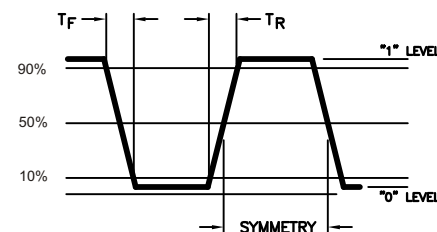
Pin Connections

Pin	Connection
1	Control Voltage
7	Ground (Case)
8	Output
14	Vcc

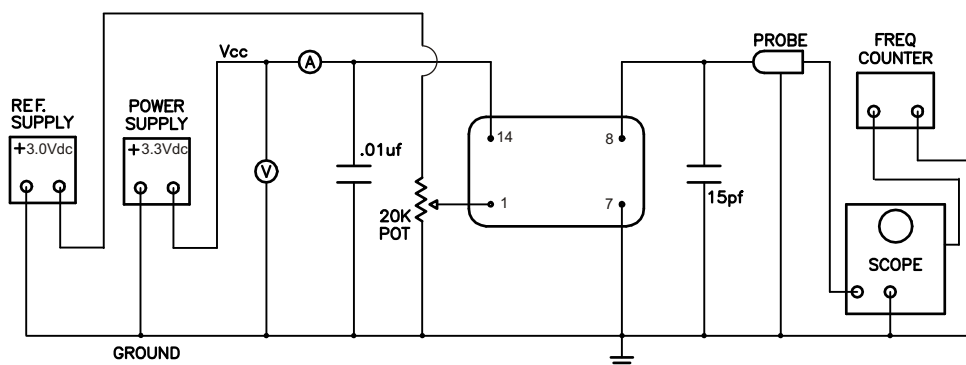
Package Outline



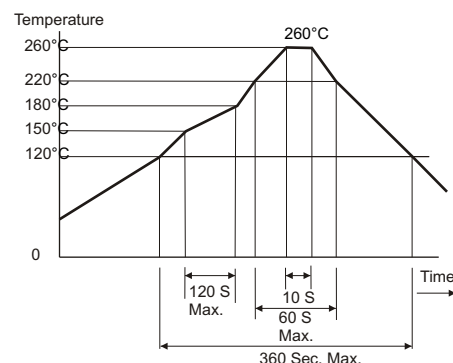
Output Waveform



Test Circuit



Solder Profile



Specifications subject to change without notice.