CONNOR WINFIELD

THE CONNOR-WINFIELD CORP.

2111 COMPREHENSIVE DRIVE.
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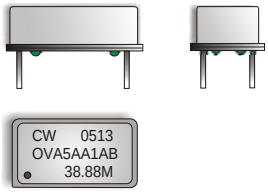
PRODUCT DATA SHEET

RoHS COMPLIANT

CRYSTAL CONTROLLED OSCILLATORS

14 PIN DIP 5.0V STRATUM 3 HCMOS OCVCXO



ABSOLUTE MAXIMUM RATINGS — TABLE 1.0

PARAMETER	UNITS	MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Storage Temperature		-40	-	85	°C	
Supply Voltage	(Vcc)	-0.5	-	7.0	Vdc	
Control Voltage	(Vc)	-0.5	-	7.0	Vdc	

OPERATING SPECIFICATIONS — TABLE 2.0

PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Center Frequency	(Fo)	1.544	-	38.88	MHz	
Frequency Calibration		-1.5		1.5	ppm	1, 4
Frequency vs. change in Temperature		-0.25	-	0.25	ppm	2
Frequency vs. change in Supply Voltage		-0.05	-	0.05	ppm	3
Aging (Daily)		-30	-	30	ppb	4
Aging (10 Years)		-2.5	-	2.5	ppm	
Total Frequency Tolerance		-3.0	-	3.0	ppm	5
Operating Temperature Range		0	-	70	°C	
Supply Voltage	(Vcc)	4.75	5.00	5.25	Vdc	
Supply Current	(Icc)	-	-	300	mA	
Jitter (BW=10Hz to 20MHz)		-	-	3	ps rms	
Allan Variance (1 second)		-	5.00E-10	-		
SSB Phase Noise at 10Hz offset		-	-90	-	dBc/Hz	
SSB Phase Noise at 10KHz offset		-	-130	-	dBc/Hz	
Start Up Time: Oscillator		-	-	10	mS	
Warm Up Time		-	-	5	Minutes	6
TDEV @ 1.0 Sec.		-	-	1	nS	
TDEV @ 4.0 Sec.		-	-	2	nS	

INTPUT CHARACTERISTICS — TABLE 3.0

PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Control Voltage Range	(Vc)	0.5	2.0	4.1	Vdc	
Frequency at Vc=0.5 Vdc		-	-7	-5	ppm	7
Frequency at Vc=4.1 Vdc		5	7	-	ppm	7
Slope of Frequency Adjust		2.8	-	-	ppm/V	
Input Impedance		100k	-	-	Ohm	

HCMOS OUTPUT CHARACTERISTICS — TABLE 4.0

PARAMETER			MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
LOAD			12	15	18	pf	
Voltage	(High)	(Voh)	4.5	-	-	Vdc	
	(Low)	(Vol)	-	-	0.4	Vdc	
Current	(High)	(Ioh)	-4		-	mA	
	(Low)	(Ioh)	-	-	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

Notes:

1) Initial calibration @ 25°C, Vc=2.0V.
2) Frequency stability, 0 to 70°C, referenced to 25°C.
3) Frequency stability per 5% change in supply voltage.
4) At the time of shipment after 48 hours of operation.
5) Inclusive of operating temperature range, supply voltage change, load change, shock and vibration, 10 years aging, Vc=2.0V.
6) 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
7) Referenced to Fo @ 25°C, Positive Transfer Characteristic.

OVA5AA1AB

DESCRIPTION

The Connor-Winfield OVA5AA1AB is a hermetically sealed 14 Pin DIP, 5.0V Oven Controlled Voltage Controlled Crystal Oscillator (OCVCXO) HCMOS/TTL Compatible. The OVA5AA1AB is designed for a higher stability Stratum 3 application requiring low jitter and tight stability.

FEATURES

5.0V OPERATION

LOW JITTER <3pS RMS

FREQUENCY STABILITY: ±0.25ppm

TEMPERATURE RANGE: 0 to 70°C

FREQUENCY TOLERANCE OF ±3.0ppm OVER TEN YEARS

HERMETICALLY SEALED 14 PIN DIP PACKAGE

RoHS COMPLIANT / LEAD FREE

ORDERING INFORMATION

OVA5AA1AB - 38.88MHz

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, 20 cycles,10 minute dwell, 1minute 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: Topside board-mount product, 260°C ±5°C for 20 Seconds.

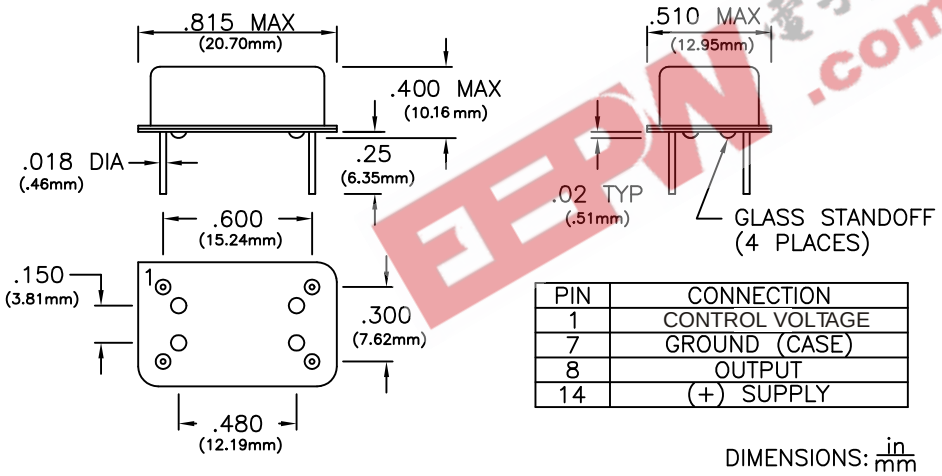
MECHANICAL CHARACTERISTICS

Vibration: Per MIL-STD-202, Method 204, Condition A. 10G's peak, 10Hz to 500Hz, 15minute cycles 12 times each perpendicular axis.

Shock: Per MIL-STD-202, Method 213, Condition D. 500G's, 1ms, halfsine, 3 shocks per direction.

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

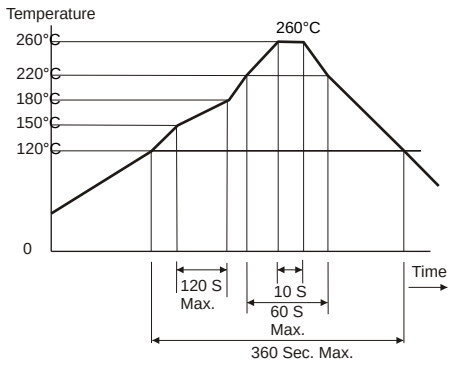
PACKAGE OUTLINE



PIN	CONNECTION
1	CONTROL VOLTAGE
7	GROUND (CASE)
8	OUTPUT
14	(+) SUPPLY

DIMENSIONS: in / mm

SOLDER PROFILE



TEST DIAGRAM