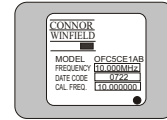


CRYSTAL CONTROLLED OSCILLATORS

High Stability HCMOS OCXO



OFC5CE1AB

DESCRIPTION

The Connor-Winfield OFC5CE1AB is a 5V Oven Controlled Crystal Oscillator (OCXO) with a HCMOS output. The OFC5CE1AB is designed for applications requiring high frequency stability over the commercial temperature range.

FEATURES

- Designed for Very High Stability Applications
- Fixed Frequency OCXO
- 5.0V Operation
- Frequency Stability: 10ppb Absolute
- Temperature Range
- HCMOS Output Logic
- RoHS 5/6 Compliant

ORDERING INFORMATION

OFC5CE1AB - 10.0M

OCXO
SERIES

CENTER
FREQUENCY

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)	-	10.000 12.800	-	MHz	1
Frequency Calibration		-2		2	ppm	2
Frequency Stability		-	-	10	ppb	3
Aging: Daily		-1	-	1	ppb/day	4
Aging: First Year		-30	-	30	ppb	
Aging: Short Term (1Sec.)		-	5.00E-11	-	RMS	5
Operating Temperature Range		0	-	70	°C	
Supply Voltage	(Vcc)	4.75	5.00	5.25	Vdc	
Voltage Stability (+/-1%)		-0.5	-	0.5	ppb	6
Load Stability (+/-20%)		-0.5	-	0.5	ppb	7
Power Consumption: Turn On		-	-	2.75	W	8
Power Consumption: Steady-State		-	-	1.50	W	8
Start-Up Time		-	-	500	ms	9
Warm Up		-100	-	100	ppb	10
2G Tip-over		-	5	-	ppb/G	
TDEV at 300 seconds		-	-	5	ns	11
TDEV at 40 seconds		-	-	1	ns	11

HCMOS OUTPUT CHARACTERISTICS

TABLE 3.0

PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
LOAD		12	15	18	pF	12
Voltage (High)	(Voh)	4.2	-	-	Vdc	
(Low)	(Vol)	-	-	0.4	Vdc	
Duty Cycle at 50% of Vcc		45	50	55	%	
Rise / Fall Time 10% to 90%		-	-	5	nS	
Spurious Output				-80	dBc	
SSB Phase Noise at 1Hz offset		-	-	-90	dBc/Hz	
SSB Phase Noise at 10Hz offset		-	-	-115	dBc/Hz	
SSB Phase Noise at 100Hz offset		-	-	-130	dBc/Hz	
SSB Phase Noise at 1KHz offset		-	-	-140	dBc/Hz	
SSB Phase Noise at 10KHz offset		-	-	-145	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	Metal package: solder sealed, grounded case, solder tinned pins.
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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
Soldering Process	See solder profile page 2.

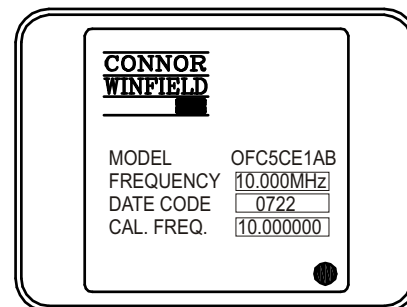
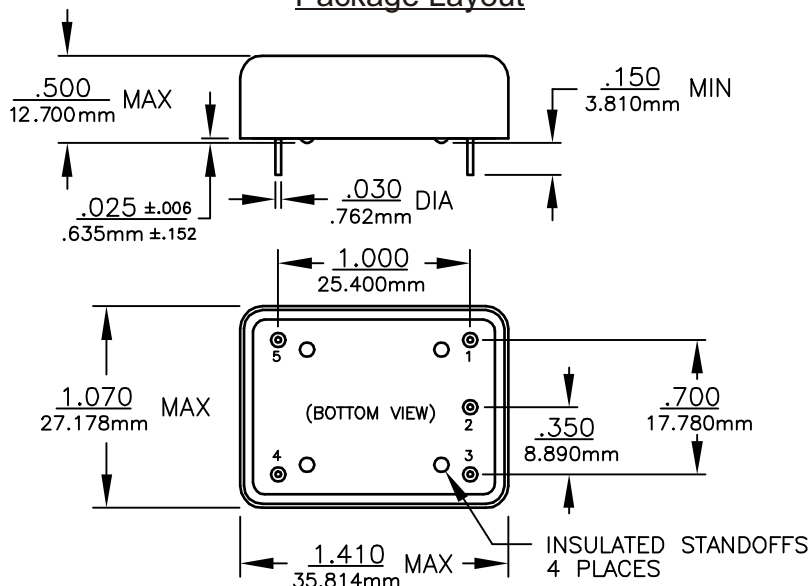
Specifications subject to change without notice.

CRYSTAL CONTROLLED OSCILLATORS

Notes:

- 1) Labels will include the calibration frequency at the time of ship.
- 2) Initial calibration @ 25°C.
- 3) Overall frequency stability, 0 to 70°C Absolute.
- 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 and TDEV requirements.

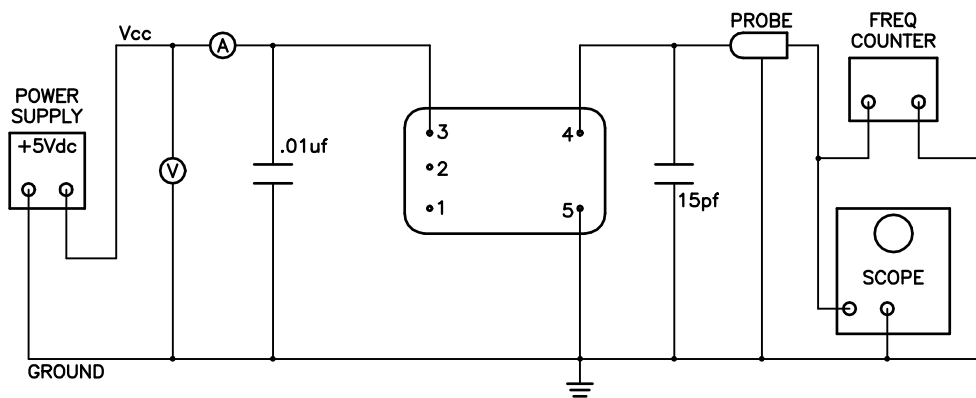
Package Layout



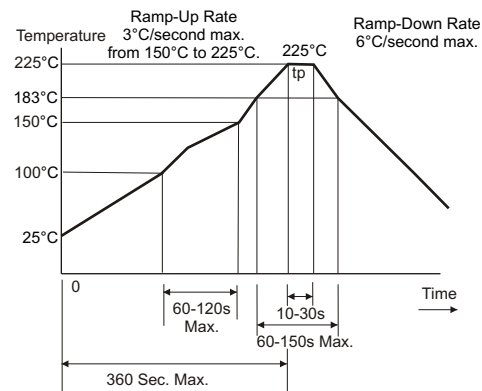
Pin Connections

PIN	CONNECTION
1	NO CONNECT
2	NO CONNECT
3	SUPPLY VOLTAGE
4	RF OUTPUT
5	CIRCUIT AND PACKAGE GROUND

Test Circuit



Solder Profile



Specifications subject to change without notice.