Stratum 3E HCMOS Oscillator OX125 TiMax Series



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VCOCXO

The Connor-Winfield OX125 TiMax Series is a 5V Voltage Controlled Oven Controlled Crystal Oscillator (VCOCXO) with an HCMOS output. The OX125 Series is designed for Stratum 3E applications requiring low jitter and tight frequency stability.

Features:

Designed to meet Stratum 3E requirements Variable frequency (VCOCXO) Frequency Stability ±10ppb 5.0V Operation **HCMOS** Output

Absolute Maximum Ratings					
Parameter	Minimum	Nominal	Maximum	Units	Notes
Storage Temperature	-40	-	85	°C	
Supply Voltage (Vcc)	-0.5	-	7	Vdc	

Operating Specifications						
Parameter	Minimum	Nominal	Maximum	Units	Notes	
Center Frequency (Fo)	-	10-12.8	-	MHz	1	
Frequency Calibration (Vc=2.5 Vd	c) -0.2	-	0.2	ppm	2	
Frequency Stability	-10	-	10	ppb	3	
Aging: Daily	-1	-	1	ppb/day	4	
Aging: First Year	-30	-	30	ppb		
Aging: Short Term (1 Sec)	-	5.00E-11	-	RMS	5	
Aging: Long Term (20 years)	-	-	300	ppb		
Operating Temp 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 Steady-State	- -	-	2.75 1.5	W	8	
Start-Up Time	-	-	500	mS	9	
Warm Up	-100	-	100	ppb	10	
2G Tip-over	-	5	-	ppb/G		
TDEV at 300 seconds TDEV at 40 seconds	-	-	5 1	nS	11	

Input Characteristics					
Parameter	Minimum	Nominal	Maximum	Units	Notes
Control Voltage (Pin 1) Vc	0.5	2.5	4.5	Vdc	
Deviation @ 25°C referenced to F	=0 ±0.3	-	±1.0	ppm	9
Input Impedance (Pin 1)	50k	-	-	Ohm	



Bulletin	Cx148
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Revision	00
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Notes:

1. Labels will include the calibration frequency at the time of ship.

2. Initial calibration @ 25°C. Vc=2.5Vdc

3. Frequency vs temperature stability

- 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.

Ordering Information

OX125 - 010.0 MHz ocxo SERIES



Specifications subject to change without notice. All dimensions in inches. © Copyright 1998 The Connor-Winfield Corporation



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Parameter	HCMOS Outp Minimum	Nominal	Maximum	Units	Notes
Load	12	15	18	pf	12
Voltage: High (Voh)	Vcc-0.2V	-	-	Vdc	
Low (Vol)	-	-	0.2		
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 1 Hz offset	_	_	-90		
at 10 Hz offset	-	-	-115		
at 100 Hz offiset at 1 kHz offset	-	-	-130 -135	dBc/Hz	
at 10 kHz offset	-	-	-140		
	Restabi	lization Time			
Off Time		estabilization Ti	me		Notes
< 1 Hour		< 2 Hours			
< 6 Hours <24 Hours		< 12 Hours < 48 Hours			13
1 to 16 Days	48	Hours + 1/4 Off	Time		10
> 16 Days		< 6 Days			
	Package (Characteristic	S		
Package	Metal package:			solder tinned pir	ns.
	E		- 41		
Shock 100G'	s, 6mS, halfsine per M	al Characteri		t Condition C	
	10G peak 10 to 500 Hz				ion ()
Vibration 0.06" D.A. or		z, per MIL-STD-	202F, Method 20	J4D, Test condit	IUIT A
oHS 5-6 Solder Profile	Package Outline		V		_
	-		500	(, <u>150</u> , <u>150</u> , 100 ,
Ramp-Up Rate Ramp-Down Rate			<u>.500</u> MAX 12.700mm	+	3.810mm
Ramp-Up Rate Ramp-Down Rate Temperature 3°C/second max. 6°C/second max. 225°C from 150°C to 225°C. 225°C // 10 /			<u>.500</u> 12.700mm MAX		
Temperature 3°C/second max. 225°C from 150°C to 225°C 225°C 6°C 225°C 183°C			.025 ±.006		
Temperature 3°C/second max. 225°C from 150°C to 225°C. 225°C for 150°C to 225°C to	CONNOR WINFIELD		4	<u> </u>	
Temperature 3°C/second max. 225°C from 150°C to 225°C. 225°C 183°C	MODEL OX125		.025 ±.006	25.400mm	
Temperature 3°C/second max. 225°C from 150°C to 225°C. 225°C 183°C for 150°C to 225°C. 100°C to 225°C.	MODEL 0X125 FREQUENCY 10.000 DATE CODE 0022	MHz 1	<u>.025 ±.006</u> .635mm ±.152	2 25.400mm ♥ 0 0	
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Temperature 3°C/second max. 225°C fom 150°C to 225°C. 225°C 183°C 100°C 25°C 0 60-1205 10-305 Time	MODEL 0X125 FREQUENCY 10.000 DATE CODE 0022	MHz 1	.025 ±.006 .635mm ±.152	2 25.400mm ♥ ○ ○	9 2 2 350 17.780mm
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