OX200-DKV
VCOCXO
CO-8 Package

CONNOR WINFIELD

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Description:

Connor-Winfield model OX200-DKV is a 12 Vdc, Voltage Controlled Oven Compensated Crystal Oscillator (VCOCXO) in a CO-8 package. The OX200-DKV is designed for use with applications that require a LVCMOS output, very high frequency stability, low jitter and low phase noise.

Features:

- VCOCXO
- 12 Vdc Operation
- CO-8 Footprint
- Frequency Stability: ±5.0 ppb
- Temperature Range: -20 to 70°C
- LVCMOS Output
- Voltage Control Frequency Adjust
- RoHS Compliant / Lead Free

Absolute Maximum Ratings

Parameter	Minimum	Nominal	Maximum	Units	Notes
Storage Temperature	-55	-	125	°C	
Operable Temperature Range:	-55	-	85	°C	
Supply Voltage (Vcc)	-	-	15	Vdc	
Output Load	-	-	50	pF	CMOS Signal

Frequency Stabilities

Parameter	Minimum	Nominal	Maximum	Units	Notes
Center Frequency: (Fo)	-	10.0	-	MHz	
Frequency Calibration	-100	-	100	ppb	1
Frequency Stability					
vs Temperature	-5.0	-	5.0	ppb	2
vs. Supply Voltage Change	-1.0	-	1.0	ppb	Vcc ±5%
vs. Load Change	-1.0	-	1.0	ppb	Load ±5%
vs. Aging per day	-1.0	-	1.0	ppb	30 days operation
vs. Aging 5 Years	-60	-	60	ppb	72 hrs. operation
Total Tolerance	-200	-	200	ppb	3
Operating Temperature Range:	-20	-	70	°C	
Warm-up Time at 25°C	-	-	5	Minutes	4

Supply Voltage (Vcc)

Parameter	Minimum	Nominal	Maximum	Units	Notes
Supply Voltage: (Vcc)	11.4	12.0	12.6	Vdc	
Power Consumption:					
Turn On	-	-	9	W	
Warm up Steady State	-	-	3	W	@ 25°C

Input Characteristics - Voltage Control (Vc)

Parameter	Minimum	Nominal	Maximum	Units	Notes
Tuning Range	±0.2	-	-	ppm	
Tuning Sensitivity	0.1		0.3	ppm/V	
Linearity	-	-	20	%	
Control Voltage Range	0.0	2.5	4.0	Vdc	
Tuning Slope		Positive			

LVCMOS Output Characteristics

Parameter	Minimum	Nominal	Maximum	Units	Notes
Load -	-	-	15	pF	
Voltage: High (Voh)	3.0	-	3.6	Vdc	
Low (Vol)	-	-	0.2		
Duty Cycle (Voh-Vol/2)	45	50	55	%	
SSB Phase Noise at 1Hz offset	-	-	-90	dBc/Hz	
SSB Phase Noise at 10Hz offset	-	-	-115	dBc/Hz	
SSB Phase Noise at 100Hz offset	-	-	-135	dBc/Hz	
SSB Phase Noise at 1KHz offset	-	-	-140	dBc/Hz	
SSB Phase Noise at 10KHz offset	-	-	-140	dBc/Hz	

RoHS COMPLIANT

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Date	09 March 2017

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Package Characteristics

Package	CO-8 footprint, resistive welded package with grounded case.

Environmental Characteristics

Shock	500 G's 1ms, Halfsine, 3 shocks per direction, per MIL-STD 202F, Method 213B Test Condition D.
Sinusoidal Vibration	0.06" D.A. or 10G's Peak, 10 to 500 Hz, per MIL-STD-202F, Method 204D, Test Condition A.
Random Vibration	5.35 G's rms. 20 to 2000 Hz per MIL-STD-202F, Method 214,Test Condition 1A, 15 minutes each axis.
Moisture	10 cycles, 95% RH, Per MIL-STD-202F, Method 112.
Marking Permanency	Per MIL-STD-202F, Method 215J.
Attachment Method PCB	Through Hole Mounted
Resistance to Solder Heat	Per MIL-STD-202F, Method 210, Condition E.
Solder Process	RoHS compliant, lead free. See solder profile.

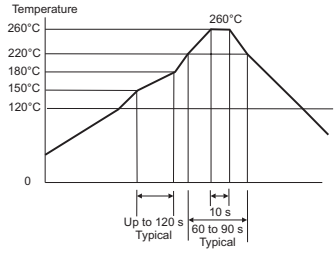
Notes:

1. *At time of shipment after 60 minutes of operation, @25°C, Vc = 2.5 Vdc.*
2. *Frequency stability vs. change in temperature [±(Fmax-Fmin)/(2*Fo)].*
3. *5 years from time of shipment after 72 hours of operation and Vc = 2.5 Vdc.*
4. *Measured at 25°C, after 5 minutes will be within +/-100ppb of reference frequency measured 1 hour after turn-on.*

Pin Connections

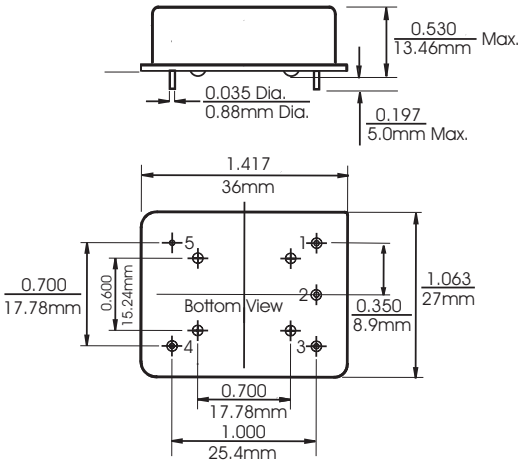
Pin	Connection
1:	Voltage Control (Vc)
2:	N/C
3:	Supply Voltage (Vcc)
4:	RF Output
5:	Ground (Case)

Solder Profile

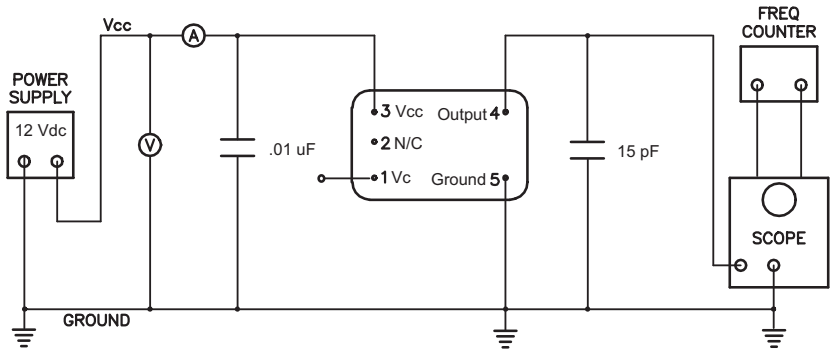


Meets IPC/JEDEC J-STD-020C

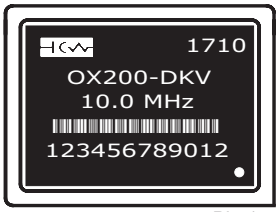
Package Outline



Test Circuit



Marking Diagram



Pin 1

Date Code (YYWW)
Model Number
Output Frequency
Serial # Barcode
Serial Number

Ordering Information

OX200-DKV - 010.0M

OCXO SERIES

CENTER FREQUENCY

Revision History

Revision	Date	Description
00	03/09/17	New issue