

3.3V Surface Mount 3.2mm x 5.0mm Oscillators V7323 & V7333 Series

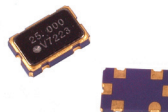
CONNOR WINFIELD



VCXO

Description

The Connor-Winfield, RoHS compliant, V7323 and V7333 are hermetically sealed, Surface Mount, 3.3V Voltage Controlled Crystal Oscillators (VCXO) with Tri-State Enable/Disable function on pad 6. The V7323 and V7333 are designed for phased lock loop applications requiring low jitter and tight stability.



Features:

- RoHS Compliant
- 3.3V Operation
- Small Surface Mount Package: 5.0mm x 3.2mm x 1.2mm
- Overall Frequency Tolerance:
V7323: ± 50 ppm
V7333: ± 100 ppm
- Low Jitter <1pS RMS
- Temperature Range -10° to 85°C
- Enable / Disable Pad 6
- Tape and Reel Packaging

Absolute Maximum Ratings

Parameter	Minimum	Nominal	Maximum	Units	Notes
Storage Temperature	-55	-	125	°C	
Supply Voltage (Vcc)	-0.5	-	7.0	Vdc	
Control Voltage (Vc)	-0.5	-	Vcc	Vdc	

Operating Specifications

Parameter	Minimum	Nominal	Maximum	Units	Notes
Frequency Range (Fo)	2.0	-	52	MHz	
Frequency Tolerance					
Model V7323	-50	-	50	ppm	1
Model V7333	-100	-	100		
Operating Temperature Range	-10	-	85	°C	
Supply Voltage (Vcc)	3.135	3.3	3.465	Vdc	
Supply Current (Icc)					
1.0 to 29.999 MHz	-	-	15	mA	
30 to 52 MHz	-	-	25		
Jitter:					
Integrated Phase Jitter (BW=12kHz to Fo/2 MHz)			1	ps RMS	
Period Jitter	-	-	5		

Input Characteristics

Parameter	Minimum	Nominal	Maximum	Units	Notes
Control Voltage Range (Vc)	0.15	1.65	3.15	Vdc	
Frequency Pullability @ 25°C	± 100	-	-	ppm	
Monotonic Linearity	-10	-	10	%	
Input Impedance	-	50K	-	Ohm	
Modulation Bandwidth (3dB)	10	-	-	KHz	
Enable Input Voltage - High (Vih)	0.7Vcc	-	-	Vdc	2
Disable Input Voltage - Low (Vil)	-	-	0.3		

LVC MOS Output Characteristics

Parameter	Minimum	Nominal	Maximum	Units	Notes
Load	-	-	15	pf	
Voltage High (Voh)	2.97	-	-	Vdc	
Low (Vol)	-	-	0.33		
Current High (Ioh)	-1	-	-	mA	
Low (Iol)	-	-	4		
Duty Cycle at 50% of Vcc	40	50	60	%	
Rise / Fall Time 20% to 80%	-	-	5	nS	
Start-up Time	-	-	10	mS	

Notes:

1. Referenced to (Fo) measured with control voltage @ 2.5Vdc. Inclusive of frequency vs. temperature stability, supply voltage, load change, shock and vibration, 15 years aging.
2. The Output is enabled with no connection on the enable pin. Output is at high impedance when disabled.

2111 Comprehensive Drive

Aurora, Illinois 60505

Phone: 630-851-4722

Fax: 630-851-5040

www.conwin.com

US Headquarters:

630-851-4722

European Headquarters:

+353-61-472221



Bulletin **Vx507**

Page **1 of 2**

Revision **02**

Date **04 June 2015**



Package Characteristics

Package	Hermetically sealed, ceramic leadless package.
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Environmental Characteristics

Temperature Cycle	The specimen shall meet electrical characteristics after tested 5 cycles of -55°C / 30 minutes and +125°C / 30 minutes
Hermetical	No bubbles appear in Flourinert (FC-43) at 125°C ±5°C for 5 minutes
Solvent Resistance	Marking will withstand immersion in Isopropyl Alcohol or Trichloroethylene

Soldering

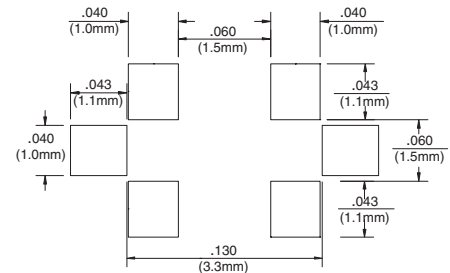
General Conditions	260°C max x 10 sec max x 2 times max or 230°C max x 180 sec max x 1 time
Typical Operation Data	20 to 100 sec up to 215°C, 50 sec at 215°C, (Vapor phase reflow) then down to room temperature per 1 to 5°C / sec

Mechanical Characteristics

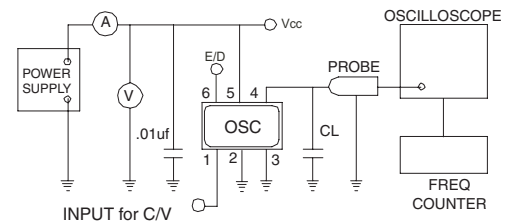
Free Drop	The specimen shall meet electrical characteristics after tested 3 times, Free Drop testing on the hard wooden board from a height of 75 cm.
Vibration	The specimen shall meet electrical characteristics after tested by the following conditions: 10-55Hz 1.5mm Amplitude, 55-2000 Hz 20 G's, 2 hours for each plane
Thermal Shock	After applied Thermal Shock of 245°C max x 10 sec max x 2 times, or 215°C max x 180 sec max, the specimen shall meet electrical characteristics
Solderability	EIAJ-RCX-0102/101 Condition 1a) 1) Flux: MIL-F-14256 (WW Rosin=25%, Isopropyl Alcohol = 75%) 2) Solder: QQ-S-571 (Sn = 63%, Pb = 37%) 3) Solder bath temperature: 235°C ±5°C 4) Depth of immersion: Up to electrical terminal 5) Immersing time: Within 2 sec ±0.5 sec into solder bath

After performing the above procedures, a newly soldered coverage shall be greater than 90%

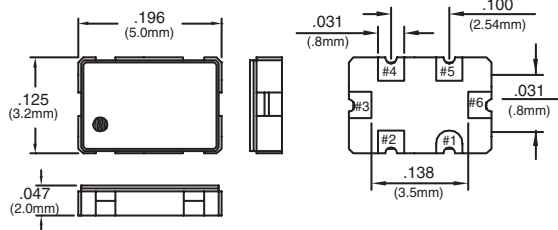
Suggested Pad Layout



Test Circuit



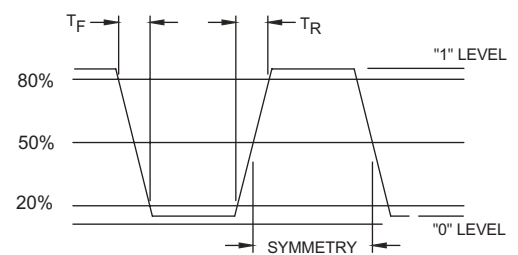
Package Outline



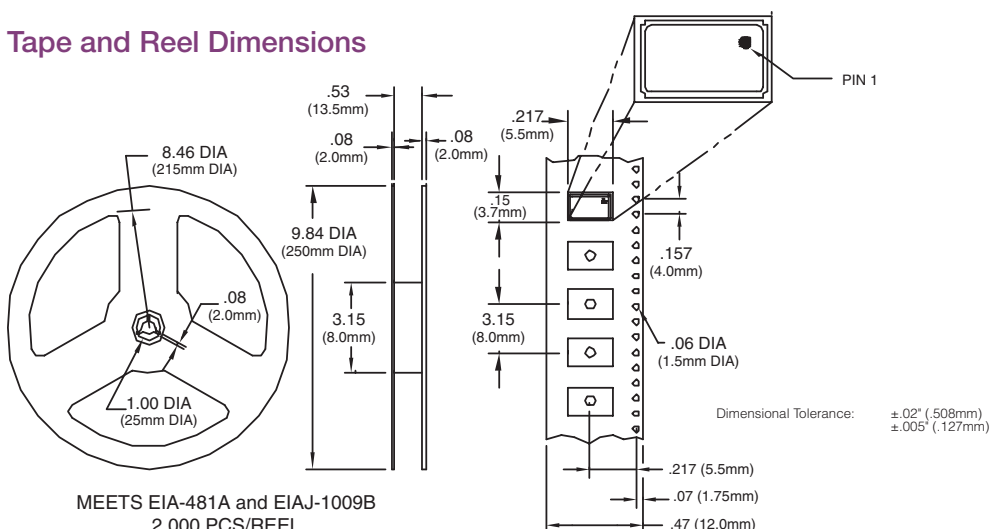
Pad Connection

Pin Function	
1:	Control Voltage
2:	Ground
3:	Ground
4:	Output
5:	Vcc
6:	Tri-State Enable/Disable

Output Waveform



Tape and Reel Dimensions



MEETS EIA-481A and EIAJ-1009B
2,000 PCS/REEL

Ordering Information

V7323 - 50.00 MHz

VCXO SERIES CENTER FREQUENCY

Dimensional Tolerance: ±.02" (.508mm)
±.005" (.127mm)

Bulletin	Vx507
Page	2 of 2
Revision	02
Date	04 June 2015