

Precision VCTCXO 5.0x7.0mm Clipped Sinewave Output



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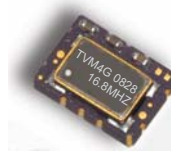
630-851-4722:

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Description

The Connor Winfield model TVM4G is a 5.0x7.0mm Surface Mount Voltage Controlled Temperature Compensated Crystal Oscillator (VCTCXO). Through the use of Analog Temperature Compensation, the TVM4G is capable of holding sub 1-ppm stabilities over the -20 to 70°C temperature range.



Features

Model TVM4G

VCTCXO
3.0Vdc Operation
Clipped Sinewave Output Logic
Frequency Stability: ± 2.0 ppm
Temperature Range: -20 to 70°C
Low Jitter < 1pS RMS
5.0 x 7.0mm Surface Mount Package
Tape and Reel Packaging

Specification

Absolute Maximum Ratings

PARAMETER	UNITS	MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Storage Temperature		-55	-	125	°C	
Supply Voltage	(Vcc)	-0.5	-	6.0	Vdc	
Input Voltage	(Vc)	-0.5	-	Vcc+0.5	Vdc	

Operating Specifications

PARAMETER	MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Frequency Range	-	16.8	-	MHz	
Frequency Stability	-2.00	-	2.00	ppm	1
Temperature Range	-20	-	70	°C	
Power Supply Stability +/-5%	-0.2	-	0.2	ppm	
Load Stability +/-5%	-0.2	-	0.2	ppm	
Aging	-1.0	-	1.0	ppm / year	
Supply Voltage	(Vcc)	2.85	3.0	3.15	Vdc
Supply Current	(Icc)	-	-	2	mA
Period Jitter	-	3	5	ps rms	
Phase Jitter (BW=12kHz to 20MHz)	-	0.5	1	ps rms	
SSB Phase Noise at 10Hz offset	-	-85	-	dBc/Hz	
SSB Phase Noise at 100Hz offset	-	-115	-	dBc/Hz	
SSB Phase Noise at 1KHz offset	-	-135	-	dBc/Hz	
SSB Phase Noise at ≥ 10 KHz offset	-	-150	-	dBc/Hz	

Input Characteristics

PARAMETER	MINIMUM	NOMINAL	MAXIMUM	UNITS	Notes
Control Voltage	0.5	1.5	2.5	V	
Frequency Tuning Range	+/-10	-	-	ppm	
Linearity	+/-5	-	-	%	
Slope	Positive				
Input Impedance	100K	-	-	Ohms	

Clipped Sinewave Output Characteristics

PARAMETER	MINIMUM	NOMINAL	MAXIMUM	UNITS	Notes
Output Voltage	0.8	-	-	V	2
Output Load Resistance	-	10.0K	-	Ohm	
Output Load Capacitance	-	10.0	-	pF	



Bulletin Tx227

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Date 27 May 2008

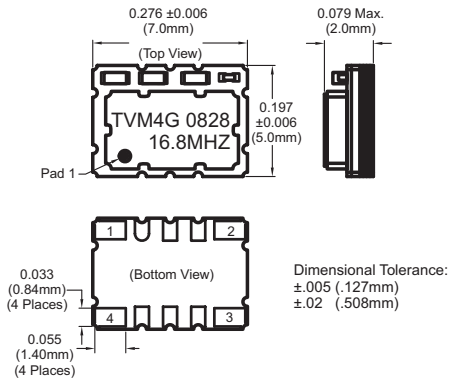
Environmental Characteristics

Vibration:	Vibration per Mil Std 883E Method 2007.3 Test Condition A
Shock:	Mechanical Shock per Mil Std 883E Method 2002.4, Condition B.
Soldering:	See solder profile page 2.
Solderability	Solderability per Mil Std 883E Method 2003

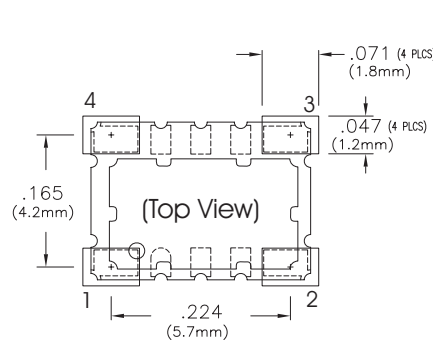
Note:

- 1) Frequency stability vs. change in temperature, referenced to the mid point between minimum and maximum frequency value over the specified temperature range.
- 2) AC coupled.

Package Layout



Suggested Pad Layout



Ordering Information

TVM4G - 016.8M

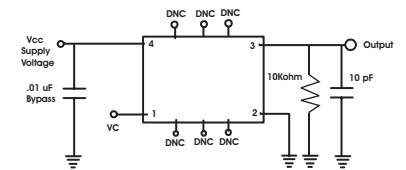
TCXO
SERIES

CENTER
FREQUENCY

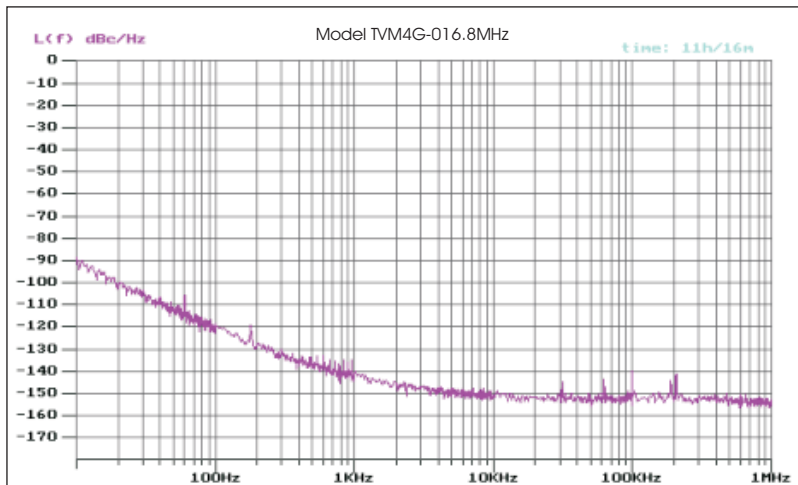
Pin Connections

1	Control Voltage
2	Ground
3	Output
4	Supply Voltage (Vcc)

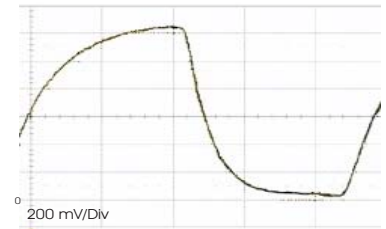
Test Circuit



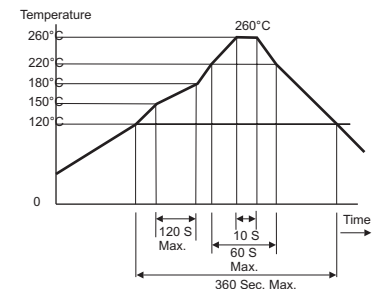
Typical Phase Noise



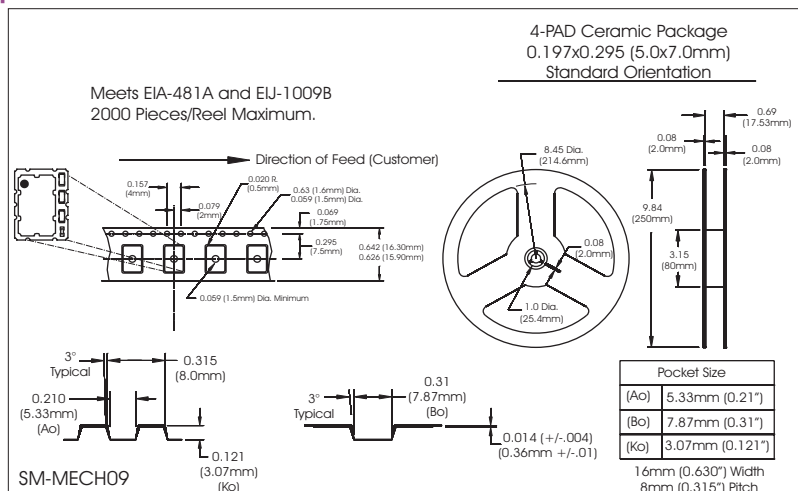
Output Waveform



Solder Profile



Tape and Reel Information



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