



CRYSTEK
CRYSTALS
A DIVISION OF CRYSTEK CORPORATION

CCO-983/985 Model

9×14 mm SMD, 3.3V/5V, SineWave



High Frequency SineWave Crystal Oscillator



Frequency Range:	50 MHz to 500 MHz
Temperature Range: (Option X)	±25ppm, 0°C to 70°C ±50ppm, -40°C to 85°C
Storage:	-45°C to 90°C
Input Voltage:	3.3V ±0.3V 5.0V ±0.5V
Input Current:	30mA Max @ 3.3V 50mA Max @ 5.0V
Output:	True SineWave
Output Power:	0 dBm Min
Start-up time:	2ms Typical, 10ms Max
Load:	50 Ω
2nd Harmonic:	-20 dBc Typical
Sub-Harmonics:	
(50 MHz ~ 170 MHz)	None
(171 MHz ~ 500 MHz)	-40 dBc Typical, -35 dBc Max
Period Jitter: (20,000 periods)	<5ps RMS (1-sigma) Max
Phase Jitter: 12 kHz~20 MHz	<1ps RMS (1-sigma) Max
50 kHz~80 MHz	<1ps RMS (1-sigma) Max
Phase Noise Typical:	
(@311.04 MHz)	10 Hz -50 dBc/Hz 100 Hz -80 dBc/Hz 1 kHz -110 dBc/Hz 10 kHz -135 dBc/Hz 100 kHz -145 dBc/Hz
Aging:	<3ppm 1 st year, <2ppm every year thereafter



Applications:

10 Gigabit Ethernet
OC48: Forward Error Correction
Broadband Networks
SONET/SDH/DWD
ATM
Network/switch
Telecom

Designed using FR5 PCB & HFF crystal technology to provide a Low Noise, Low Jitter Crystal Oscillator with True Sinewave Output.

Crystek Corporation reserves the right to make changes to its products and/or information contained herein without notice.
No liability is assumed as a result of its use or application.

Rev: M

Date: 04-Apr-2019

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Crystek Part Number Guide

CCO-983 X-500.000

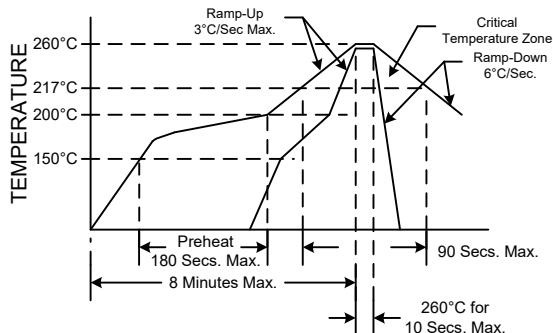
#1 #2 #3 #4

#1 Crystek 9×14 SMD SineWave Oscillator
#2 Model 983 = 983=3.3V 985=5.0V
#3 Temp. Range: Blank = 0/70°C, X=-40/85°C
#4 Frequency in MHz: 3 or 6 decimal places

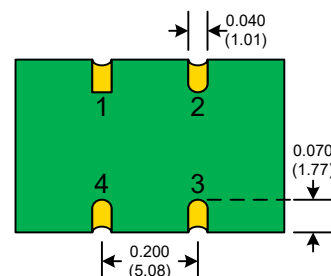
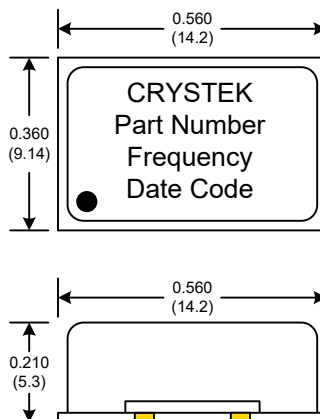
Example:

CCO-983X-500.000 = 3.3V, -40/85°C, 500.000 MHz

RECOMMENDED REFLOW SOLDERING PROFILE

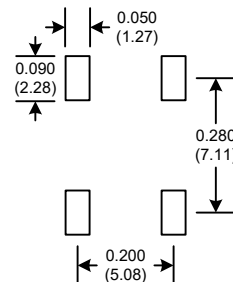


NOTE: Reflow Profile with 240°C peak also acceptable.



PAD FINISH: Immersion Gold (ENIG); 5 micro inches maximum

SUGGESTED PAD LAYOUT



Pad	Connection
1	N/C
2	GND
3	OUT
4	Vdd

Standard Frequencies MHz

77.7600	167.3317
155.5200	212.5000
156.2500	250.0000
161.1328	311.0400
166.6286	

Mechanical:

Shock:

Solderability:

Vibration:

Solvent Resistance:

Resistance to Soldering Heat:

MIL-STD-883, Method 2002, Condition B

MIL-STD-883, Method 2003

MIL-STD-883, Method 2007, Condition A

MIL-STD-202, Method 215

MIL-STD-202, Method 210, Condition I or J

Environmental:

Thermal Shock:

Moisture Resistance:

MIL-STD-883, Method 1011, Condition A

MIL-STD-883, Method 1004

Packaging:

Tape/Reel:

100ea, 250ea, 500ea 24mm Tape

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CRYSTEK
CORPORATION

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