



CRYSTEK
CRYSTALS
A DIVISION OF CRYSTEK CORPORATION

C33xx 5x7mm SMD
HCMOS Clock Oscillator
3.3 Volts



Model C33xx is a 1.544MHz to 156.250MHz HCMOS Clock Oscillator operating at 3.3Volts. The oscillator utilizes Fundamental or High Q Third Overtone crystal design providing very low Jitter and Phase Noise. No Sub-Harmonics are present in the Output Signal.



5x7mm SMD

Applications:

Digital Video
SONET/SDH/DWDM
Storage Area Networks
Broadband Access
Ethernet, Gigabit Ethernet





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Frequency Range:	1.544 to 156.250Mhz
Frequency Stability Options(ppm):	±20, ±25, ±50, ±100
Temperature Range: (standard)	0°C to +70°C
(Option M)	-20°C to +70°C
(Option E)	-40°C to +85°C
Storage:	-55°C to 120°C
Input Voltage:	3.3V ± 0.3V
Input Current: (1.544~34.00MHz)	18mA Max
(35.00~50.00MHz)	25mA Max
(51.00~69.00MHz)	30mA Max
(70.00~156.25MHz)	45mA Max
Standby Current:	3uA Typ., 10uA Max
Output:	HCMOS
Symmetry:	45/55% Max @ 50% Vdd
Rise/Fall Time:	
(1.54~10.00MHz)	5nsec Max @ 20% to 80% Vdd
(10.10~30.00MHz)	4nsec Max @ 20% to 80% Vdd
(30.10~50.00MHz)	3nsec Max @ 20% to 80% Vdd
(50.10~80.00MHz)	2.5nsec Max @ 20% to 80% Vdd
(80.10~156.25MHz)	2nsec Max @ 20% to 80% Vdd
Logic:	"0"= 10% Vdd Max
	"1"= 90% Vdd Min.
Disable Time	200nSec Max
Start-up Time	1mSec Typ., 2mSec Max
Load:	30pF Max, >125MHz 15pF Max
Jitter RMS:	12KHz~80MHz
	0.5psec Typ., 1psec Max
Sub-harmonics:	None
Aging:	<3ppm 1st/yr, <1ppm every year thereafter

PART NUMBER GUIDE

Example: C3392-44.736MHz
Intermediate Temp: CM3392-44.736MHz
Extended Temp: CE3392-44.736MHz
C = 0°C to 70°C
CM = -20°C to 70°C
CE = -40°C to 85°C

Part Number	Stability
C3390	±100ppm
C3392	±50ppm
C3391	±25ppm
C3398	±20ppm

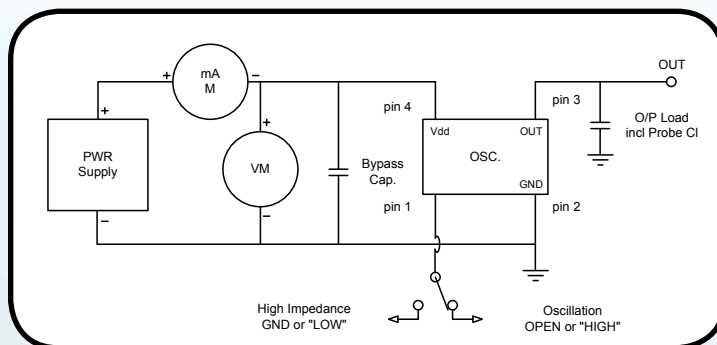


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Mechanical:

Shock: MIL-STD-883, Method 2002, Condition B

Solderability: MIL-STD-883, Method 2003

Vibration: MIL-STD-883, Method 2007, Condition A

Solvent Resistance: MIL-STD-202, Method 215

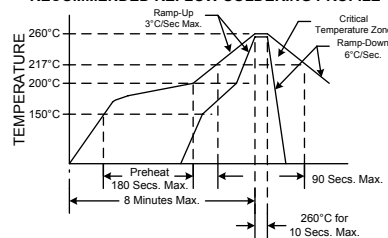
Resistance to Soldering Heat: MIL-STD-202, Method 210, Condition I or J

Environmental:

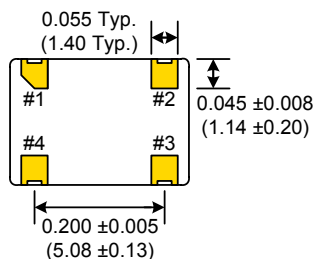
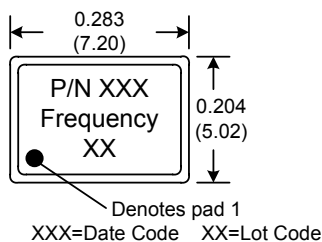
Thermal Shock: MIL-STD-883, Method 1011, Condition A

Moisture Resistance: MIL-STD-883, Method 1004

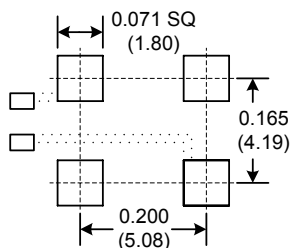
RECOMMENDED REFLOW SOLDERING PROFILE



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



SUGGESTED PAD LAYOUT



0.01uF Bypass Capacitor Recommended

Tri-State Function

Pin #1 State	Output State
Open or N/C	Active
"1" level 0.7*Vcc Min	Active
"0" level 0.3*Vcc Max	High Z

Pad	Connection
1	Enable/Disable
2	GND
3	Out
4	Vcc