

CRYSTAL CONTROLLED OSCILLATORS

3.3V LVCMOS SURFACE MOUNT 5x3.2mm CLOCK OSCILLATOR



7213, 7223,
7233

ABSOLUTE MAXIMUM RATINGS TABLE 1.0

PARAMETER	UNITS	MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Storage Temperature		-55	-	125	°C	
Supply Voltage	(Vcc)	-0.5	-	7.0	Vdc	

MODEL SPECIFICATIONS: TABLE 2.0

MODEL 7213						
PARAMETER	UNITS	MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Frequency Range	(Fo)	1.8	-	160	MHz	
Frequency Tolerance:		-25	-	25	ppm	1

MODEL 7223						
PARAMETER	UNITS	MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Frequency Range	(Fo)	1.8	-	160	MHz	
Frequency Tolerance:		-50	-	50	ppm	1

MODEL 7233						
PARAMETER	UNITS	MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Frequency Range	(Fo)	1.8	-	160	MHz	
Frequency Tolerance:		-100	-	100	ppm	1

OPERATING SPECIFICATIONS TABLE 3.0

PARAMETER	UNITS	MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Operating Temperature Range		-40	-	85	°C	
Supply Voltage	(Vdd)	3.0	3.3	3.6	Vdc	
Supply Current	1.5 to 49.999 MHz	(Icc)	-	20	mA	
	50 to 79.999 MHz	(Icc)	-	30	mA	
	80 to 124.999 MHz	(Icc)	-	40	mA	
	125 to 160.999 MHz	(Icc)	-	50	mA	

INPUT CHARACTERISTICS TABLE 4.0

PARAMETER	UNITS	MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Enable Voltage	(Vih)	70% Vdd	-	-	Vdc	2
Disable Voltage	(Vil)	-	-	30% Vdd	Vdc	
Enable Time		-	-	10	ms	
Disable Time		-	-	150	ns	
Output Disable Current	(Icc)	-	-	10	uA	

LVCMOS OUTPUT CHARACTERISTICS TABLE 5.0

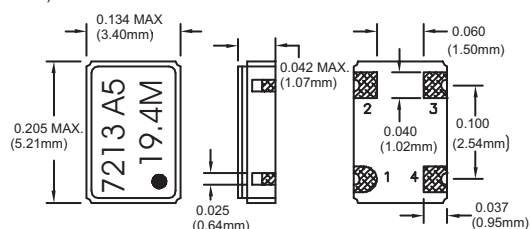
PARAMETER	UNITS	MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
LOAD		-	-	15	pF	
Voltage	(High)	(Voh)	2.70	-	Vdc	
	(Low)	(Vol)	-	0.36	Vdc	
Current	(High)	(Ioh)	-2	-	mA	
	(Low)	(Iol)	-	2	mA	
Duty Cycle	1.5 to 49.999 MHz		45	50	%	3
	50 to 160 MHz		40	50	%	3
Rise / Fall Time	1.5 to 69.999 MHz		-	3	ns	4
	70 to 160 MHz		-	1	ns	4
Start-Up Time		-	-	10	ms	
Period Jitter		-	3	5	ps RMS	
Phase Jitter (BW=12kHz to 20MHz)		-	0.5	1	ps RMS	

PACKAGE CHARACTERISTICS TABLE 6.0

Package	Hermetically sealed ceramic package and metal cover
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Note:

- Inclusive of calibration @ 25°C, frequency vs. temperature stability, supply voltage change, load change, shock and vibration, 10 years aging.
- Oscillator output is enabled with no connection on pad 1.
- Duty Cycle measured at 50% of Vcc.
- Rise and Fall times measured from 10% to 90%.



PAD	CONNECTION
1	ENABLE/DISABLE
2	GROUND
3	OUTPUT
4	Vcc

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

DESCRIPTION

The Connor-Winfield models 7213, 7223 and 7233 are 3.3V LVCMOS, Surface Mount, Fixed Frequency Crystal Oscillators (XO) designed for use in all applications requiring precision clocks. These oscillators feature low stand-by current (10uA) when output is disabled. The surface mount package is designed for high-density mounting and is optimum for mass production.

FEATURES

- 1.8 to 160 MHz
- 3.3V OPERATION
- TRI-STATE ENABLE / DISABLE FUNCTION
- OVERALL FREQUENCY TOLERANCE:
7213 ±25ppm
7223 ±50ppm
7233 ±100ppm
- TEMPERATURE RANGE: -40 to 85°C
- POWER SAVING FUNCTION: 10uA when disabled.
- CERAMIC SURFACE MOUNT PACKAGE
- TAPE AND REEL PACKAGING
- RoHS COMPLIANT / LEAD FREE

ORDERING INFORMATION

7213 - 019.44M

CLOCK
SERIES

CENTER
FREQUENCY

Specifications subject to change without notice.
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