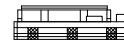
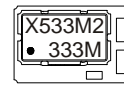


CRYSTAL CONTROLLED OSCILLATORS

3.3V SURFACE MOUNT 5.0 x 7.5mm LVDS CLOCK OSCILLATOR



X533

ABSOLUTE MAXIMUM RATINGS

TABLE 1.0

PARAMETER	UNITS	MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Storage Temperature		-40	-	100	°C	
Supply Voltage	(Vcc)	-0.5	-	7.0	Vdc	

OPERATING SPECIFICATIONS

TABLE 2.0

PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Center Frequency	(Fo)	100	-	400	MHz	
Total Frequency Tolerance		-100	-	100	ppm	1
Operating Temperature Range		0	-	85	°C	
Supply Voltage	(Vcc)	3.135	3.3	3.465	Vdc	
Supply Current	(Icc)	-	-	60	mA	
Jitter (BW=10Hz to 20MHz)		-	-	10	ps rms	
Jitter (BW=12kHz to 80MHz)		-	-	3	ps rms	
SSB Phase Noise at 10Hz offset		-	-75	-	dBc/Hz	
SSB Phase Noise at 100Hz offset		-	-95	-	dBc/Hz	
SSB Phase Noise at 1KHz offset		-	-110	-	dBc/Hz	
SSB Phase Noise at 10KHz offset		-	-125	-	dBc/Hz	
SSB Phase Noise at 100KHz offset		-	-120	-	dBc/Hz	

INPUT CHARACTERISTICS

TABLE 3.0

PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Enable Input Voltage (Low)	(Vil)	-	-	0.3Vcc	Vdc	2
Disable Input Voltage (High)	(Vih)	0.7Vcc	-	-	Vdc	2

LVDS OUTPUT CHARACTERISTICS

TABLE 4.0

PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
LOAD		-	-	100	Ohms	3
Output Differential Voltage	(Vod)	250	-	450	mV	
Duty Cycle at 50% Level		45	50	55	%	
Rise / Fall Time		-	0.6	1.0	nS	

PACKAGE CHARACTERISTICS

TABLE 5.0

Package	Hermetically sealed ceramic package with grounded metal cover.
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PROCESS RECOMMENDATIONS

TABLE 6.0

Solder Reflow	SMD product suitable for Convection Reflow soldering. Peak temperature 260°C. Maximum time above 220°C, 60 seconds.
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Notes

- Inclusive of calibration @ 25°C, frequency stability vs. temperature, control voltage (Vc) = 1.65 Vdc and aging for ten years.
- When oscillator is disabled both output are in a high impedance state (Tri-State)
- Vod measured with 100 ohm resistor between the true output and the complementary output.

DESCRIPTION

The Connor-Winfield X533 is a 3.3V Crystal Controlled Oscillator (XO) with LVDS Differential outputs. The X533 is designed for use with PLL systems requiring tight frequency stability vs. temperature. The use of multiplication is utilized in this oscillator design.

FEATURES

- 3.3V OPERATION
- LOW JITTER <3pS RMS
- TOTAL FREQUENCY TOLERANCE: ±100ppm
- TEMPERATURE RANGE: 0 to 85°C
- DIFFERENTIAL LVDS OUTPUTS
- SURFACE MOUNT PACKAGE
- TAPE AND REEL PACKAGING
- RoHS COMPLIANT / LEAD FREE

ORDERING INFORMATION

X533 - 333.00MHz

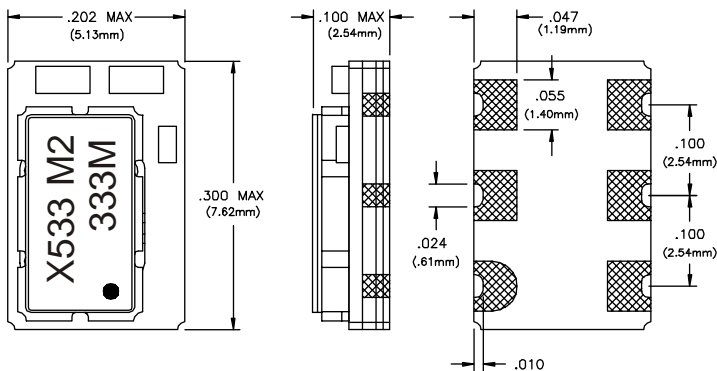
LVDS
CLOCK
SERIES

CENTER
FREQUENCY

Specifications subject to change without notice.

CRYSTAL CONTROLLED OSCILLATORS

Package Outline and Dimensions

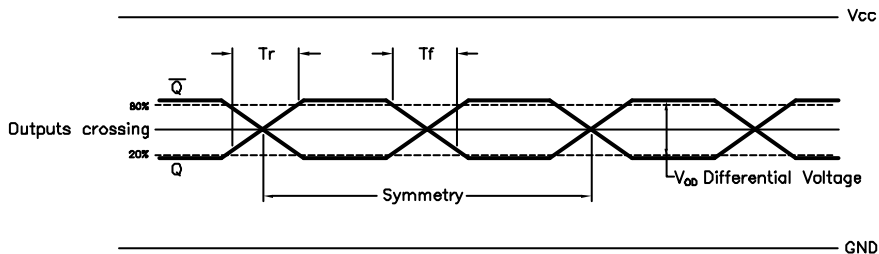


Pin Connections

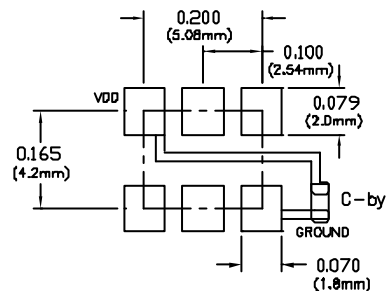
Pin	Function
1	N/C
2	Enable / Disable
3	Ground (Case)
4	Output Q
5	Comp Output \bar{Q}
6	Vcc

Dimensional Tolerance:
 $\pm .005$ (.127mm)

Timing Chart

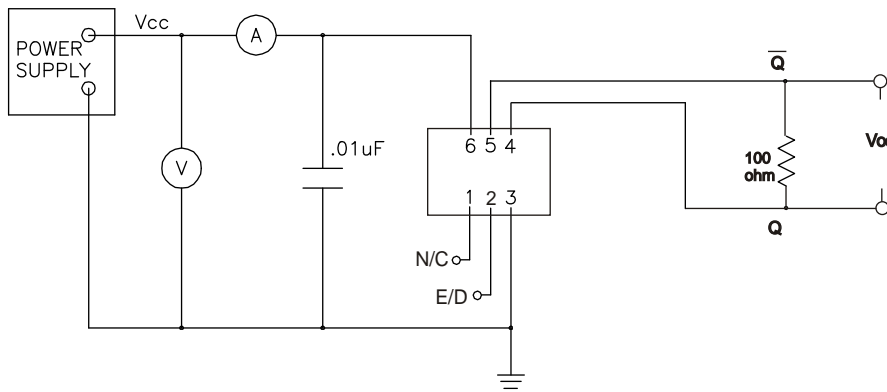


Suggested Pad Layout

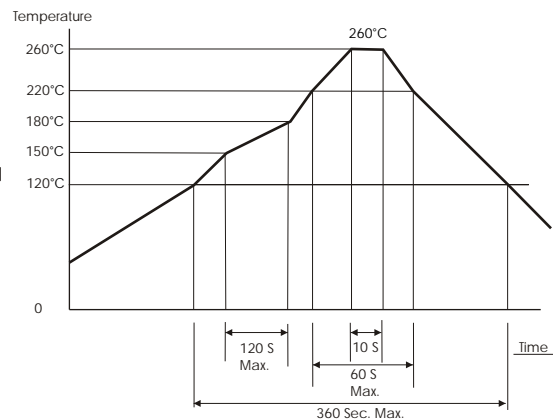


Bypass capacitor, C-by, should be ceramic capacitor $\geq .01\mu\text{f}$.

Test Circuit



Solder Profile



Specifications subject to change without notice.