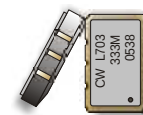


CRYSTAL CONTROLLED OSCILLATORS

CERAMIC SURFACE MOUNT

3.3V LVDS 5x7.0mm

HIGH FREQUENCY CLOCK OSCILLATOR



L703

ABSOLUTE MAXIMUM RATINGS

TABLE 1.0

PARAMETER	UNITS	MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Storage Temperature		-55	-	125	°C	
Supply Voltage	(Vcc)	-0.5	-	4.6	Vdc	
Input Voltage	(Vcc)	-0.5	-	Vcc+0.5	Vdc	

OPERATING SPECIFICATIONS

TABLE 2.0

PARAMETER		MINIMUM	NOMINAL	MAXIMUM	UNITS	NOTE
Center Frequency	(Fo)	200	-	800	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
Disable Input Voltage (Low)	(Vil)	-	-	0.3Vcc	Vdc	2
Enable 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	%	4
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 Includes calibration @ 25°C, frequency stability vs. temperature, supply and load variations, shock, vibration and 20 years aging.
- When the oscillator is disabled, the outputs are at High Impedance. Output is enabled with no connection on pad 1.
- Vod measured with 100-ohm resistor between the true output and the complementary output.
- Duty Cycle measured at 50% of output swing.

DESCRIPTION

The Connor Winfield L703 is a Fixed Frequency, Surface Mount Crystal Controlled Oscillator (XO) designed for applications requiring low jitter and a ± 100 ppm, 0 to 85°C overall overall frequency tolerance, LVDS Differential Outputs and Tri-state Enable / Disable function. The L703 is designed using a 2X or 4X PLL multiplication to achieve the high output frequencies.

FEATURES

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

ORDERING INFORMATION

L703 - 333MHz

CLOCK
SERIES

CENTER
FREQUENCY

Specifications subject to change without notice.

CRYSTAL CONTROLLED OSCILLATORS

Pin Connection

TABLE 7.0

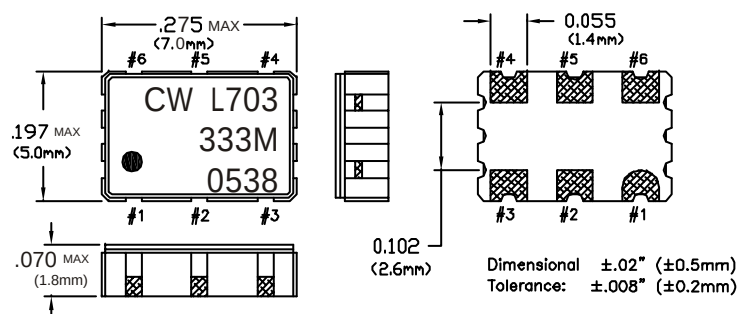
Pin	Function
1	Enable / Disable
2	N/C
3	Ground (Case)
4	Output Q
5	Comp Output $\bar{Q}$
6	Vcc

Enable / Disable Function

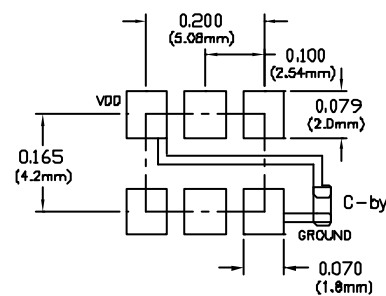
TABLE 8.0

Enable / Disable Function (Pad 1)	Output
High or Open	Enable
Low	Disable (High Impedance)

Package Outline and Dimensions

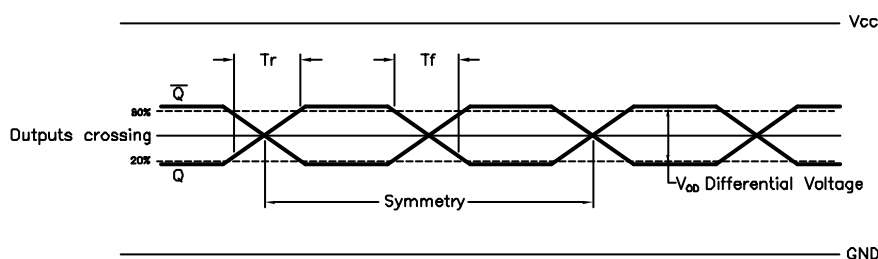


Suggested Pad Layout

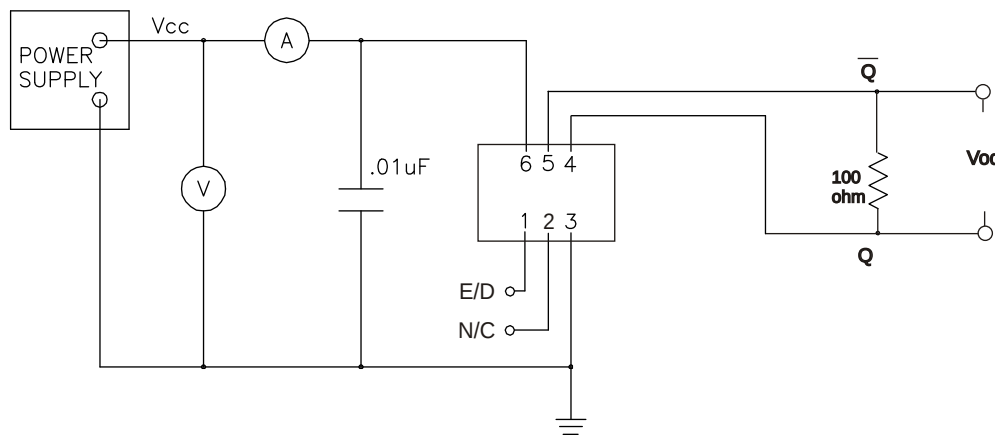


Bypass capacitor, C-by, should be ceramic capacitor $\geq .01\mu\text{f}$.

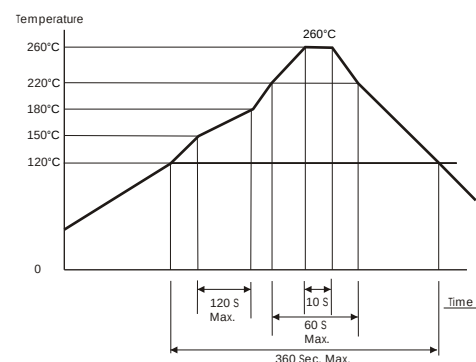
Output Waveform



Test Circuit



Solder Profile



Specifications subject to change without notice.