

**MICROCHIP****MX553ABB283M333****Ultra-Low Jitter 283.33333MHz LVDS XO****ClockWorks® FUSION**

## General Description

The MX553ABB283M333 is an ultra-low phase jitter XO with LVDS output optimized for high line rate applications.

## Features

- 283.33333MHz LVDS
- Typical phase noise:
  - 100fs (Integration range: 1.875MHz-20MHz)
- $\pm 50$ ppm total frequency stability
- $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$  temperature range
- Industry standard 6-Pin 5mm x 3.2mm LGA package

## Absolute Maximum Ratings

Supply Voltage (VIN).....	+4.6V
Lead Temperature (soldering, 10s).....	260°C
Storage Temperature (T <sub>S</sub> ).....	125°C
ESD Rating (HBM).....	2kV

## Operating Ratings

Supply Voltage (VIN).....	+2.375V to +3.63V
Ambient Temperature (TA).....	-40°C to +85°C

## Electrical Characteristics

VDD = 2.375 - 3.63V, TA =  $-40^{\circ}\text{C}$  to  $+85^{\circ}\text{C}$ , outputs terminated with 100 Ohms between Q and /Q.<sup>1</sup>

Symbol	Parameter	Condition	Min.	Typ.	Max.	Units
IDD	Supply Current			90	mA	
F0	Center Frequency		283.33333			MHz
	Frequency Stability	Note 2			$\pm 50$	ppm
$\varnothing_j$	Phase Noise	Integration Range (12kHz to 20MHz) Integration Range (1.875MHz to 20MHz)	220 100			fsRMS
Tstart	Start-Up Time			20	ms	
TR/TF	Rise/Fall time		100		400	ps
	Duty Cycle		45		55	%
VOH	Output High Voltage VOH max = VCM max + 1/2 VOD max	LVDS output levels	1.248	1.375	1.602	V
VOL	Output Low Voltage VOL min = VCM min - 1/2 VOD max	LVDS output levels	0.898	1.025	1.252	V
VOD	Output Differential Voltage		247	350	454	mV
VCM	Common Mode Output Voltage		1.125	1.2	1.375	V

**Notes:**

1. Guaranteed after thermal equilibrium.
2. Inclusive of initial accuracy, temperature drift, aging, shock, vibration.

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December 26, 2016  
MX553AB1-4693

Revision 1.0

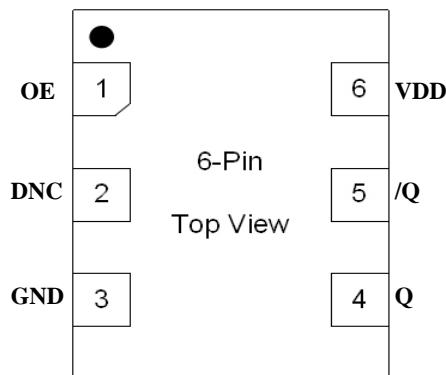
[tcghelp@microchip.com](mailto:tcghelp@microchip.com)

## Ordering Information

Ordering Part Number	Marking Line 1	Marking Line 3	Shipping	Package
MX553ABB283M333	MX553A	BB2833	Tube	6-Pin 5mm x 3.2mm LGA
MX553ABB283M333 TR	MX553A	BB2833	Tape and Reel	6-Pin 5mm x 3.2mm LGA

Devices are Green and RoHS compliant. Sample material may have only a partial top mark.

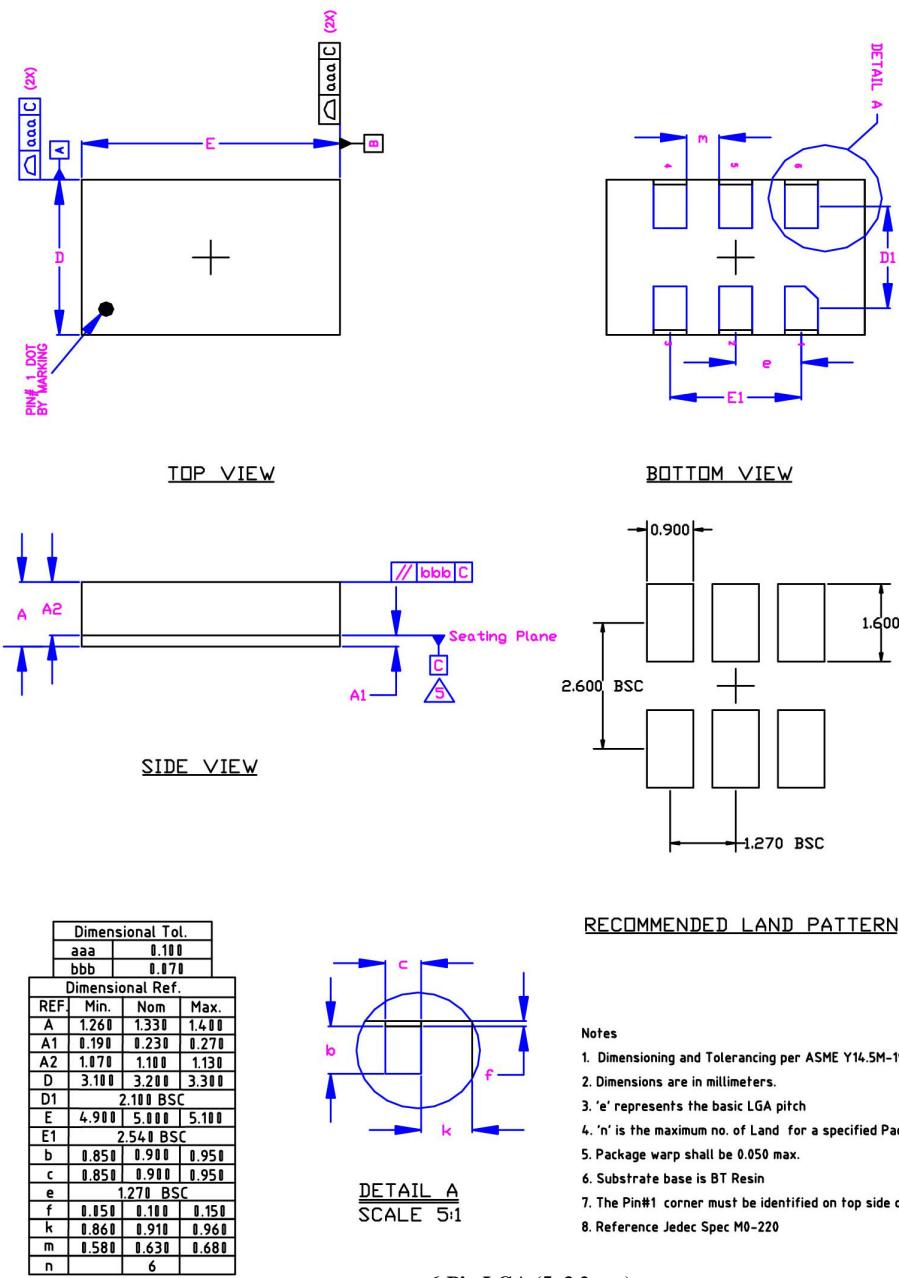
## Pin Configuration



## Pin Description

Pin Number	Pin Name	Pin Type	Pin Level	Pin Function
1	OE	I, SE	LVC MOS	Output Enable, disables output to tri-state, 0 = Disabled, 1 = Enabled, 50k Ohms Pull-Up
2	DNC			Make no connection, leave floating.
3	GND	PWR		Power Supply Ground
4, 5	Q, /Q	O, Diff	LVDS	Clock Output Frequency = 283.33333MHz
6	VDD	PWR		Power Supply

## Package Information and Recommended Land Pattern for 6-Pin LGA<sup>3</sup>



**Note:**

3. Package information is correct as of the publication date. For updates and most current information, go to [www.microchip.com](http://www.microchip.com).

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