



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)
- ± 50 ppm total frequency stability
- -40°C to +85°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_s).....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°C to +85°C, outputs terminated with 100 Ohms between Q and /Q.¹

| Symbol | Parameter | Condition | Min. | Typ. | Max. | Units |
|--------|--|---|-------|------------|----------|-------|
| IDD | Supply Current | | | | 90 | mA |
| F0 | Center Frequency | | | 283.33333 | | MHz |
| | Frequency Stability | Note 2 | | | ± 50 | ppm |
| Øj | 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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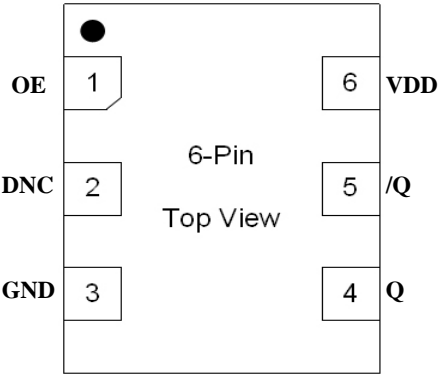
Revision 1.0
tcghelp@microchip.com

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.

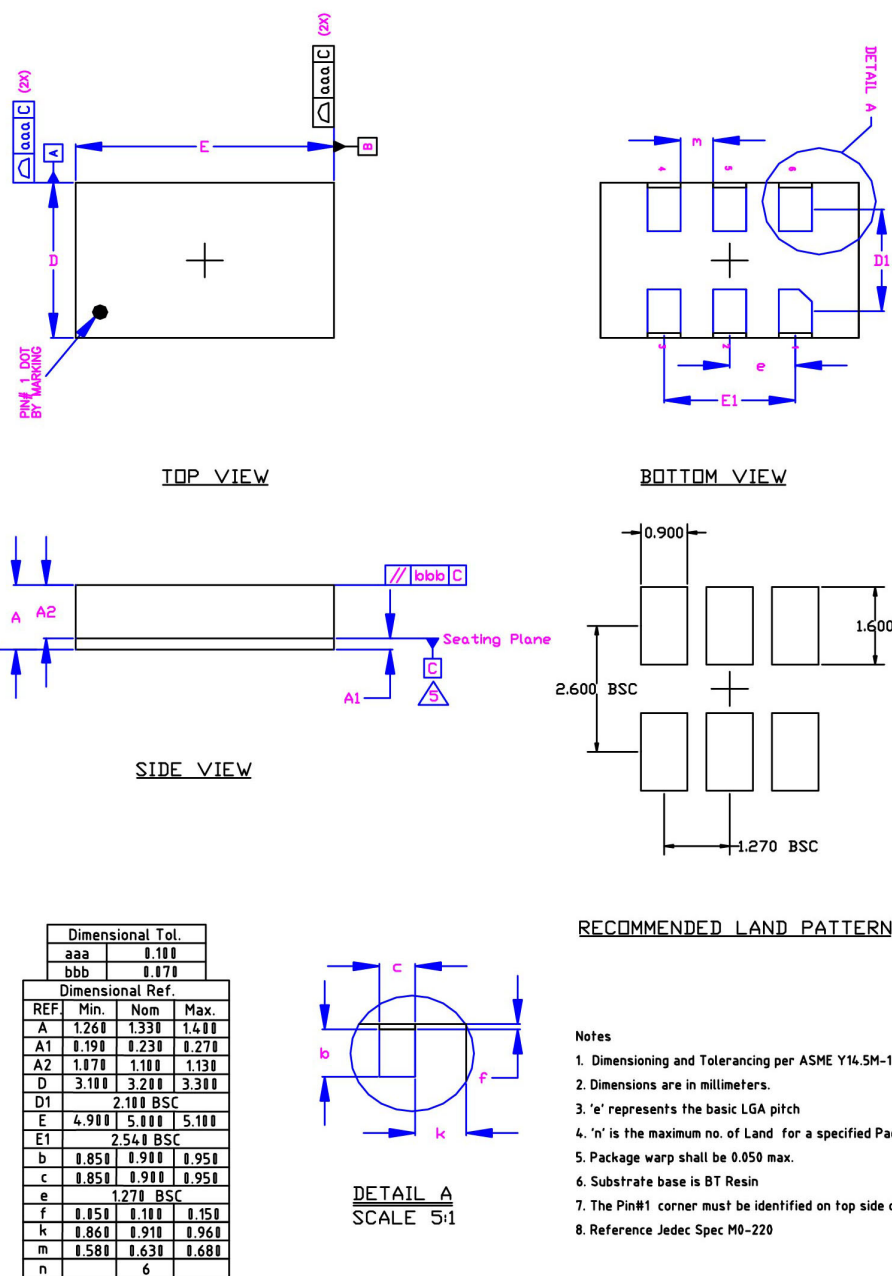
Pin Configuration



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 LGA³



Note:

3. Package information is correct as of the publication date. For updates and most current information, go to www.microchip.com.

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