



MX575ANN15M0000

Ultra-Low Jitter 15MHz LVC MOS XO

ClockWorks® FUSION

General Description

The MX575ANN15M0000 is an ultra-low phase jitter XO with LVC MOS output optimized for high line rate applications.

Features

- 15MHz LVC MOS
- Typical phase noise:
 - 170fs (Integration range: 1.875MHz-5MHz)
- ±50ppm total frequency stability
- -40°C to +85°C temperature range
- Industry standard 6-Pin 7mm x 5mm 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, output terminated with 50 Ohms to VDD/2.¹

Symbol	Parameter	Condition	Min.	Typ.	Max.	Units
IDD	Supply Current				95	mA
F0	Center Frequency			15		MHz
	Frequency Stability	Note 2			±50	ppm
∅j	Phase Noise	Integration Range (12kHz to 5MHz) Integration Range (1.875MHz to 5MHz)		199 170		fsRMS
Tstart	Start-Up Time				20	ms
TR/TF	Rise/Fall time		100		500	ps
	Duty Cycle		45		55	%
VIH	Input High Voltage	3.3V Operation	2		VDD + 0.3	V
VIL	Input Low Voltage	3.3V Operation	-0.3		0.8	V
VOH	Output High Voltage	LVC MOS output levels	VDD - 0.8			V
VOL	Output Low Voltage	LVC MOS output levels			0.6	V

Notes:

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

ClockWorks is a registered trademark of Microchip Technology Inc.

Microchip Technology Inc.

<http://www.microchip.com>

May 05, 2017
 MX575AN2-5219

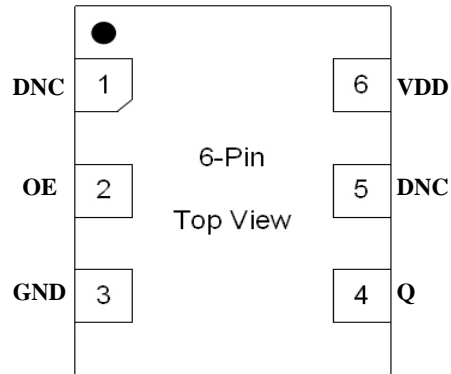
Revision 1.0
tcghelp@microchip.com

Ordering Information

Ordering Part Number	Marking Line 1	Marking Line 3	Shipping	Package
MX575ANN15M0000	MX575AN	N15M0000	Tube	6-Pin 7mm x 5mm LGA
MX575ANN15M0000-TR	MX575AN	N15M0000	Tape and Reel	6-Pin 7mm x 5mm 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	DNC			Make no connection, leave floating.
2	OE	I, SE	LVC MOS	Output Enable, disables output to tri-state, 1 = Disabled, 0 = Enabled, 50k Ohms Pull-Down
3	GND	PWR		Power Supply Ground
4, 5	Q, DNC	O, SE	LVC MOS	Clock Output Frequency = 15MHz
6	VDD	PWR		Power Supply

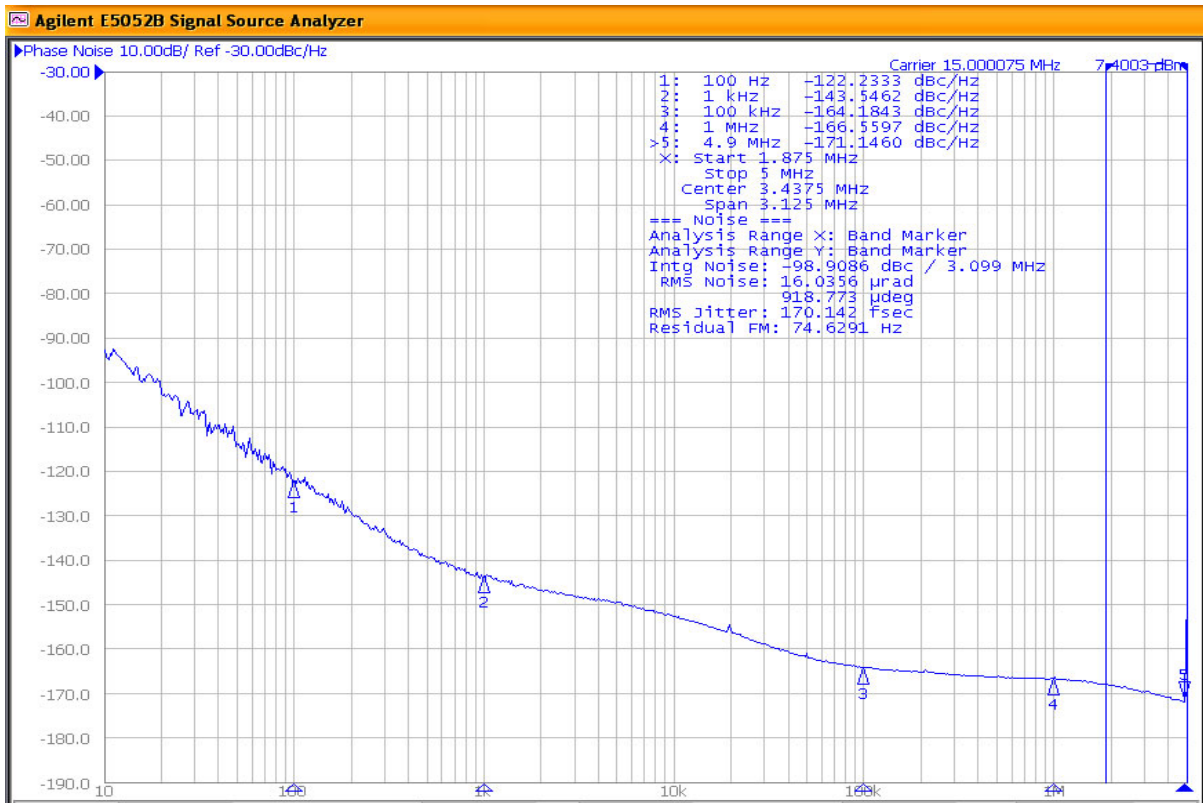


Figure 1. LVC MOS Output 15MHz 1.875MHz-5MHz 170fs

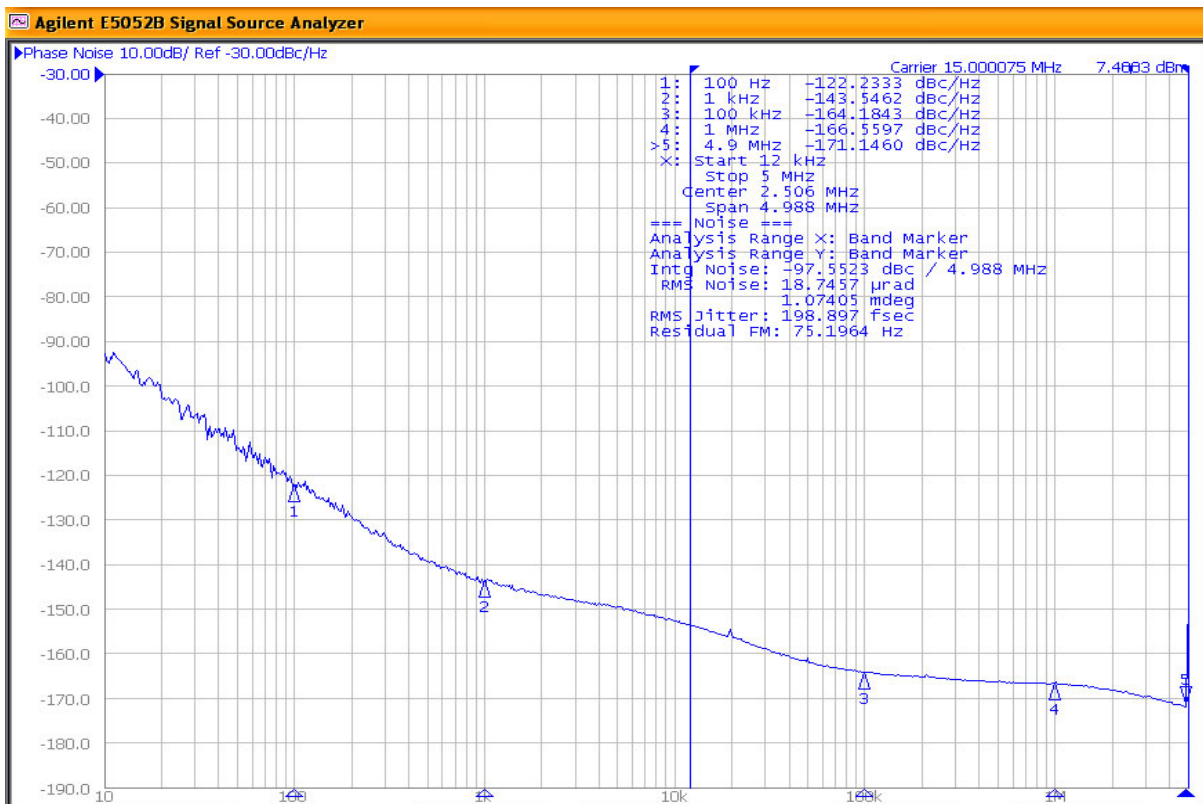
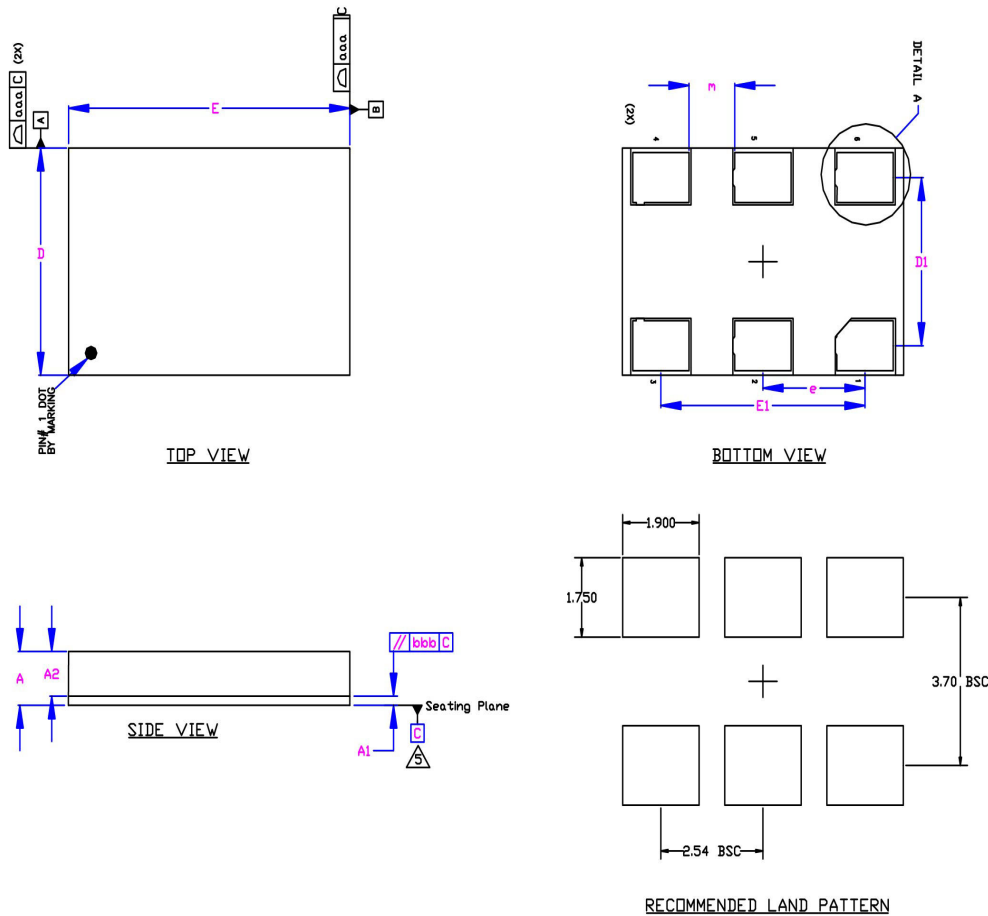


Figure 2. LVC MOS Output 15MHz 12kHz-5MHz 199fs

Package Information and Recommended Land Pattern for 6-Pin LGA³



Dimensional Tol.	
aaa	0.100
bbb	0.170

Dimensional Ref.			
REF.	Min.	Nom.	Max.
A	1.260	1.330	1.400
A1	0.190	0.230	0.270
A2	1.070	1.100	1.130
D	4.900	5.000	5.100
D1	3.700 BSC		
E	6.900	7.000	7.100
E1	5.000 BSC		
b	1.050	1.100	1.150
c	1.350	1.400	1.450
e	2.540 BSC		
f	0.150	0.180	0.150
k	0.210	0.260	0.310
m	1.190	1.140	1.190
n	36		



- Notes
1. Dimensioning and Tolerancing per ASME Y14.5M-1994.
 2. Dimensions are in millimeters.
 3. 'e' represents the basic LGA pitch
 4. 'n' is the maximum no. of Land for a specified Package.
 5. Package warp shall be 0.150 max.
 6. Substrate base is BT Resin
 7. The Pin#1 corner must be identified on top side only.
 8. Reference Jeduc Spec M1-221
 9. Land pattern tolerance is 0.15mm unless otherwise specified

6-Pin LGA (7x5mm)

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

Microchip Technology Inc.

<http://www.microchip.com>

Microchip makes no representations or warranties with respect to the accuracy or completeness of the information furnished in this data sheet. This information is not intended as a warranty and Microchip does not assume responsibility for its use. Microchip reserves the right to change circuitry, specifications and descriptions at any time without notice. No license, whether express, implied, arising by estoppel or otherwise, to any intellectual property rights is granted by this document. Except as provided in Microchip's terms and conditions of sale for such products, Microchip assumes no liability whatsoever, and Microchip disclaims any express or implied warranty relating to the sale and/or use of Microchip products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright or other intellectual property right.

© 2017 Microchip Technology Inc.