



PCN 06B-12 issued on April 16, 2012 supersedes PCN 06A-12, issued on March 12, 2012

April 16, 2012

Revision History

PCN#	Issue Date	Description
06A-12	March 12, 2012	Initial release
06B-12	April 16, 2012	Added Clarification regarding External Switching Characteristics on PCN 06B-12 cover letter

Subject: PCN# 06B-12 Notification of Changes to the MachXO2 Family Datasheet

Dear Lattice Customer,

This revision is intended to provide additional clarification on the changes relating to the External Switching Characteristics mentioned in the prior revision (06A-12).

- 1) External Switching Characteristics notification is a courtesy notification highlighting the timing changes that occurred when the datasheet transitioned from "Preliminary" to "Final" status. This is coincident with Lattice Diamond® 1.3.x to 1.4.0 update. Lattice recommends that the customer follow their FPGA design process to re-run their timing using the "Timing Analysis Tool - TRACE" in the Lattice Diamond software. This will ensure that their MachXO2™ designs comprehend the new, "Final" device parameters.
- 2) Customers who are designing MachXO2 with Diamond 1.4.0 or later are not impacted by this PCN. No action required.
- 3) Customers using the LCMXO2-1200 production device with the "R1" suffix are required to re-run the timing analysis with Diamond 1.4.0 to ensure that the timing changes do not impact the final design.



March 12, 2012

Subject: PCN# 06A-12 Notification of Changes to the MachXO2 Family Datasheet

Dear Lattice Customer,

Lattice is providing this notification of revisions to the MachXO2™ data sheet. The revision pertains to the transition of the datasheet from “Preliminary” to “Final” status. As part of this transition there have been changes to the External Switching Characteristics and Pin Information Summary tables. These changes are available in the MachXO2 Family Data Sheet ([DS1035](#) Version 01.6 and later). A description of these changes follows:

1) MachXO2 External Switching Characteristics (Pages 3-16 through 3-27)

A number of changes have been made to the timing specifications. These changes are described in an Excel spreadsheet titled “PCN06A-12_XO2_Datasheet_DS1035_Switching_Characteristics_Changes” available [here](#). The spreadsheet identifies the timing changes to the HC/HE and ZE product options in two worksheets titled “HC-HE Switching Changes” and “ZE Switching Changes”, respectively. Lattice recommends that the customer re-run their timing using the “Timing Analysis Tool - TRACE” in the Diamond software to ensure that the design has sufficient margin to the revised values. This action is not required for designs that were previously verified with version 1.4.0 or later.

2) Pin Information Summary (Page 4-3)

The total number of V_{CCIO} , V_{CC} , GND, & NC pins for the MachXO2-256 and MachXO2-640 densities changed in the 100-TQFP and 132-csBGA packages. By virtue of this revision, the total count of bonded pins has also changed for the density-package combinations listed above. These changes are described in an Excel spreadsheet titled “PCN06A-12_XO2_Datasheet_DS1035_Pin_Information_Changes” available [here](#). The spreadsheet identifies the changes in the datasheet as well as software through two work sheets titled “Pin Info Summary Changes in DS” and “Pin Out Changes in SW”, respectively. The pin out tables for the MachXO2-256 and MachXO2-640 densities and the migration files for 100-TQFP and 132-csBGA packages found [here](#) on the Lattice Website have also been revised to reflect these changes. The pin outs of other densities and packages are not affected. The change is limited to documentation and software. The MachXO2-256 and MachXO2-640 devices themselves are unchanged. There is no impact to existing customer designs and no action is necessary.

AFFECTED DEVICES

The changes to the switching characteristics described in this PCN affect all devices listed in Exhibit “A” (also available in an Excel spreadsheet [here](#)). The changes applicable to each OPN are clearly specified in Exhibit “A”. This PCN also affects any custom devices (i.e. factory programmed, special test, etc.) which are derived from any of the devices listed. All shipments of the indicated devices prior to this PCN are also affected. The OPNs remain unchanged for all affected devices.

DATA SHEET SPECIFICATIONS

The LatticeXO2 Data Sheet (DS1035 Version 01.6 and later) reflects these changes.

SOFTWARE SUPPORT

Lattice Diamond[®] 1.4.0 (released in December 2011) has been modified to reflect the changes in the switching characteristics. Lattice Diamond 1.4.2 (to be released in April 2012) will be modified to reflect the pin out changes.

TIMING

These data sheet changes are effective retroactively.

RESPONSE

No customer response is required. If customers have questions about the datasheet changes described above they should contact their local field support for further assistance.

Lattice PCNs are available on the [Lattice website](#). Please sign up to receive e-mail PCN alerts by registering [here](#). If you already have a Lattice web account and wish to receive PCN alerts, you can do so by logging into your account and making edits to your subscription options.

CONTACT

If you have any questions or require additional information, please contact pcn@latticesemi.com.

Sincerely,

Lattice Semiconductor PCN Administration

EXHIBIT “A” – AFFECTED DEVICES

Family	Device	Package	Ordering Part Number	Switching Characteristics	Pin-Out Changes
MachXO2HC	256HC	100-TQFP	LCMXO2-256HC-4TG100C	✓	✓
			LCMXO2-256HC-5TG100C	✓	✓
			LCMXO2-256HC-6TG100C	✓	✓
			LCMXO2-256HC-4TG100I	✓	✓
			LCMXO2-256HC-5TG100I	✓	✓
			LCMXO2-256HC-6TG100I	✓	✓
		132-csBGA	LCMXO2-256HC-4MG132C	✓	✓
			LCMXO2-256HC-5MG132C	✓	✓
			LCMXO2-256HC-6MG132C	✓	✓
			LCMXO2-256HC-4MG132I	✓	✓
			LCMXO2-256HC-5MG132I	✓	✓
			LCMXO2-256HC-6MG132I	✓	✓
		64-ucBGA	LCMXO2-256HC-4UMG64C	✓	
			LCMXO2-256HC-5UMG64C	✓	
			LCMXO2-256HC-6UMG64C	✓	
			LCMXO2-256HC-4UMG64I	✓	
			LCMXO2-256HC-5UMG64I	✓	
			LCMXO2-256HC-6UMG64I	✓	
	640HC	100-TQFP	LCMXO2-640HC-4TG100C	✓	✓
			LCMXO2-640HC-5TG100C	✓	✓
			LCMXO2-640HC-6TG100C	✓	✓
			LCMXO2-640HC-4TG100I	✓	✓
			LCMXO2-640HC-5TG100I	✓	✓
			LCMXO2-640HC-6TG100I	✓	✓
		132-csBGA	LCMXO2-640HC-4MG132C	✓	✓
			LCMXO2-640HC-5MG132C	✓	✓
			LCMXO2-640HC-6MG132C	✓	✓
			LCMXO2-640HC-4MG132I	✓	✓
			LCMXO2-640HC-5MG132I	✓	✓
			LCMXO2-640HC-6MG132I	✓	✓
	640UHC	144-TQFP	LCMXO2-640UHC-4TG144C	✓	
			LCMXO2-640UHC-5TG144C	✓	
			LCMXO2-640UHC-6TG144C	✓	
LCMXO2-640UHC-4TG144I			✓		
LCMXO2-640UHC-5TG144I			✓		
LCMXO2-640UHC-6TG144I			✓		
1200HC	100-TQFP	LCMXO2-1200HC-4TG100C	✓		
		LCMXO2-1200HC-5TG100C	✓		
		LCMXO2-1200HC-6TG100C	✓		
		LCMXO2-1200HC-4TG100I	✓		
		LCMXO2-1200HC-5TG100I	✓		
		LCMXO2-1200HC-6TG100I	✓		

Note: This PCN also affects any custom devices (i.e. factory programmed, special test, tape and reel, non-standard speed grade and package, etc.), which are derived from any of the devices listed above.

Family	Device	Package	Ordering Part Number	Switching Characteristics	Pin-Out Changes
MachXO2HC (contd.)	1200HC (contd.)	132-csBGA	LCMXO2-1200HC-4MG132C	✓	
			LCMXO2-1200HC-5MG132C	✓	
			LCMXO2-1200HC-6MG132C	✓	
			LCMXO2-1200HC-4MG132I	✓	
			LCMXO2-1200HC-5MG132I	✓	
			LCMXO2-1200HC-6MG132I	✓	
		144-TQFP	LCMXO2-1200HC-4TG144C	✓	
			LCMXO2-1200HC-5TG144C	✓	
			LCMXO2-1200HC-6TG144C	✓	
			LCMXO2-1200HC-4TG144I	✓	
			LCMXO2-1200HC-5TG144I	✓	
			LCMXO2-1200HC-6TG144I	✓	
	1200UHC	256-ftBGA	LCMXO2-1200UHC-4FTG256C	✓	
			LCMXO2-1200UHC-5FTG256C	✓	
			LCMXO2-1200UHC-6FTG256C	✓	
			LCMXO2-1200UHC-4FTG256I	✓	
			LCMXO2-1200UHC-5FTG256I	✓	
			LCMXO2-1200UHC-6FTG256I	✓	
	2000HC	100-TQFP	LCMXO2-2000HC-4TG100C	✓	
			LCMXO2-2000HC-5TG100C	✓	
			LCMXO2-2000HC-6TG100C	✓	
			LCMXO2-2000HC-4TG100I	✓	
			LCMXO2-2000HC-5TG100I	✓	
			LCMXO2-2000HC-6TG100I	✓	
		132-csBGA	LCMXO2-2000HC-4MG132C	✓	
			LCMXO2-2000HC-5MG132C	✓	
			LCMXO2-2000HC-6MG132C	✓	
			LCMXO2-2000HC-4MG132I	✓	
			LCMXO2-2000HC-5MG132I	✓	
			LCMXO2-2000HC-6MG132I	✓	
		144-TQFP	LCMXO2-2000HC-4TG144C	✓	
			LCMXO2-2000HC-5TG144C	✓	
			LCMXO2-2000HC-6TG144C	✓	
			LCMXO2-2000HC-4TG144I	✓	
			LCMXO2-2000HC-5TG144I	✓	
			LCMXO2-2000HC-6TG144I	✓	
		256-caBGA	LCMXO2-2000HC-4BG256C	✓	
			LCMXO2-2000HC-5BG256C	✓	
			LCMXO2-2000HC-6BG256C	✓	
			LCMXO2-2000HC-4BG256I	✓	
			LCMXO2-2000HC-5BG256I	✓	
			LCMXO2-2000HC-6BG256I	✓	

Note: This PCN also affects any custom devices (i.e. factory programmed, special test, tape and reel, non-standard speed grade and package, etc.), which are derived from any of the devices listed above.

Family	Device	Package	Ordering Part Number	Switching Characteristics	Pin-Out Changes
MachXO2HC (contd.)	2000HC (contd.)	256-ftBGA	LCMXO2-2000HC-4FTG256C	✓	
			LCMXO2-2000HC-5FTG256C	✓	
			LCMXO2-2000HC-6FTG256C	✓	
			LCMXO2-2000HC-4FTG256I	✓	
			LCMXO2-2000HC-5FTG256I	✓	
			LCMXO2-2000HC-6FTG256I	✓	
	2000UHC	484-fpBGA	LCMXO2-2000UHC-4FG484C	✓	
			LCMXO2-2000UHC-5FG484C	✓	
			LCMXO2-2000UHC-6FG484C	✓	
			LCMXO2-2000UHC-4FG484I	✓	
			LCMXO2-2000UHC-5FG484I	✓	
			LCMXO2-2000UHC-6FG484I	✓	
	4000HC	132-csBGA	LCMXO2-4000HC-4MG132C	✓	
			LCMXO2-4000HC-5MG132C	✓	
			LCMXO2-4000HC-6MG132C	✓	
			LCMXO2-4000HC-4MG132I	✓	
			LCMXO2-4000HC-5MG132I	✓	
			LCMXO2-4000HC-6MG132I	✓	
		144-TQFP	LCMXO2-4000HC-4TG144C	✓	
			LCMXO2-4000HC-5TG144C	✓	
			LCMXO2-4000HC-6TG144C	✓	
			LCMXO2-4000HC-4TG144I	✓	
			LCMXO2-4000HC-5TG144I	✓	
			LCMXO2-4000HC-6TG144I	✓	
		256-caBGA	LCMXO2-4000HC-4BG256C	✓	
			LCMXO2-4000HC-5BG256C	✓	
			LCMXO2-4000HC-6BG256C	✓	
			LCMXO2-4000HC-4BG256I	✓	
			LCMXO2-4000HC-5BG256I	✓	
			LCMXO2-4000HC-6BG256I	✓	
		256-ftBGA	LCMXO2-4000HC-4FTG256C	✓	
			LCMXO2-4000HC-5FTG256C	✓	
			LCMXO2-4000HC-6FTG256C	✓	
			LCMXO2-4000HC-4FTG256I	✓	
			LCMXO2-4000HC-5FTG256I	✓	
			LCMXO2-4000HC-6FTG256I	✓	
332-caBGA	LCMXO2-4000HC-4BG332C	✓			
	LCMXO2-4000HC-5BG332C	✓			
	LCMXO2-4000HC-6BG332C	✓			
	LCMXO2-4000HC-4BG332I	✓			
	LCMXO2-4000HC-5BG332I	✓			
	LCMXO2-4000HC-6BG332I	✓			

Note: This PCN also affects any custom devices (i.e. factory programmed, special test, tape and reel, non-standard speed grade and package, etc.), which are derived from any of the devices listed above.

Family	Device	Package	Ordering Part Number	Switching Characteristics	Pin-Out Changes		
MachXO2HC (contd.)	4000HC (contd.)	484-fpBGA	LCMXO2-4000HC-4FG484C	✓			
			LCMXO2-4000HC-5FG484C	✓			
			LCMXO2-4000HC-6FG484C	✓			
			LCMXO2-4000HC-6FG484I	✓			
			LCMXO2-4000HC-4FG484I	✓			
			LCMXO2-4000HC-5FG484I	✓			
	7000HC	144-TQFP		LCMXO2-7000HC-4TG144C	✓		
				LCMXO2-7000HC-5TG144C	✓		
				LCMXO2-7000HC-6TG144C	✓		
				LCMXO2-7000HC-4TG144I	✓		
				LCMXO2-7000HC-5TG144I	✓		
				LCMXO2-7000HC-6TG144I	✓		
		256-caBGA			LCMXO2-7000HC-4BG256C	✓	
					LCMXO2-7000HC-5BG256C	✓	
					LCMXO2-7000HC-6BG256C	✓	
					LCMXO2-7000HC-4BG256I	✓	
					LCMXO2-7000HC-5BG256I	✓	
					LCMXO2-7000HC-6BG256I	✓	
		256-ftBGA			LCMXO2-7000HC-4FTG256C	✓	
					LCMXO2-7000HC-5FTG256C	✓	
					LCMXO2-7000HC-6FTG256C	✓	
					LCMXO2-7000HC-4FTG256I	✓	
					LCMXO2-7000HC-5FTG256I	✓	
					LCMXO2-7000HC-6FTG256I	✓	
		332-caBGA			LCMXO2-7000HC-4BG332C	✓	
					LCMXO2-7000HC-5BG332C	✓	
					LCMXO2-7000HC-6BG332C	✓	
					LCMXO2-7000HC-4BG332I	✓	
					LCMXO2-7000HC-5BG332I	✓	
					LCMXO2-7000HC-6BG332I	✓	
		484-fpBGA			LCMXO2-7000HC-4FG484C	✓	
					LCMXO2-7000HC-5FG484C	✓	
					LCMXO2-7000HC-6FG484C	✓	
					LCMXO2-7000HC-4FG484I	✓	
					LCMXO2-7000HC-5FG484I	✓	
					LCMXO2-7000HC-6FG484I	✓	
		MachXO2HE	2000HE	100-TQFP	LCMXO2-2000HE-4TG100C	✓	
					LCMXO2-2000HE-5TG100C	✓	
					LCMXO2-2000HE-6TG100C	✓	
					LCMXO2-2000HE-4TG100I	✓	
					LCMXO2-2000HE-5TG100I	✓	
					LCMXO2-2000HE-6TG100I	✓	

Note: This PCN also affects any custom devices (i.e. factory programmed, special test, tape and reel, non-standard speed grade and package, etc.), which are derived from any of the devices listed above.

Family	Device	Package	Ordering Part Number	Switching Characteristics	Pin-Out Changes
MachXO2HE (contd.)	2000HE (contd.)	132-csBGA	LCMXO2-2000HE-4MG132C	✓	
			LCMXO2-2000HE-5MG132C	✓	
			LCMXO2-2000HE-6MG132C	✓	
			LCMXO2-2000HE-4MG132I	✓	
			LCMXO2-2000HE-5MG132I	✓	
			LCMXO2-2000HE-6MG132I	✓	
		144-TQFP	LCMXO2-2000HE-4TG144C	✓	
			LCMXO2-2000HE-5TG144C	✓	
			LCMXO2-2000HE-6TG144C	✓	
			LCMXO2-2000HE-4TG144I	✓	
			LCMXO2-2000HE-5TG144I	✓	
			LCMXO2-2000HE-6TG144I	✓	
		256-caBGA	LCMXO2-2000HE-4BG256C	✓	
			LCMXO2-2000HE-5BG256C	✓	
			LCMXO2-2000HE-6BG256C	✓	
			LCMXO2-2000HE-4BG256I	✓	
			LCMXO2-2000HE-5BG256I	✓	
			LCMXO2-2000HE-6BG256I	✓	
		256-ftBGA	LCMXO2-2000HE-4FTG256C	✓	
			LCMXO2-2000HE-5FTG256C	✓	
			LCMXO2-2000HE-6FTG256C	✓	
			LCMXO2-2000HE-4FTG256I	✓	
			LCMXO2-2000HE-5FTG256I	✓	
			LCMXO2-2000HE-6FTG256I	✓	
	2000UHE	484-fpBGA	LCMXO2-2000UHE-4FG484C	✓	
			LCMXO2-2000UHE-5FG484C	✓	
			LCMXO2-2000UHE-6FG484C	✓	
			LCMXO2-2000UHE-4FG484I	✓	
			LCMXO2-2000UHE-5FG484I	✓	
			LCMXO2-2000UHE-6FG484I	✓	
	4000HE	132-csBGA	LCMXO2-4000HE-4MG132C	✓	
			LCMXO2-4000HE-5MG132C	✓	
			LCMXO2-4000HE-6MG132C	✓	
			LCMXO2-4000HE-4MG132I	✓	
			LCMXO2-4000HE-5MG132I	✓	
			LCMXO2-4000HE-6MG132I	✓	
144-TQFP		LCMXO2-4000HE-4TG144C	✓		
		LCMXO2-4000HE-5TG144C	✓		
		LCMXO2-4000HE-6TG144C	✓		
		LCMXO2-4000HE-4TG144I	✓		
		LCMXO2-4000HE-5TG144I	✓		
		LCMXO2-4000HE-6TG144I	✓		

Note: This PCN also affects any custom devices (i.e. factory programmed, special test, tape and reel, non-standard speed grade and package, etc.), which are derived from any of the devices listed above.

Family	Device	Package	Ordering Part Number	Switching Characteristics	Pin-Out Changes
MachXO2HE (contd.)	4000HE (contd.)	256-caBGA	LCMXO2-4000HE-4BG256C	✓	
			LCMXO2-4000HE-5BG256C	✓	
			LCMXO2-4000HE-6BG256C	✓	
			LCMXO2-4000HE-4BG256I	✓	
			LCMXO2-4000HE-5BG256I	✓	
			LCMXO2-4000HE-6BG256I	✓	
		256-ftBGA	LCMXO2-4000HE-4FTG256C	✓	
			LCMXO2-4000HE-5FTG256C	✓	
			LCMXO2-4000HE-6FTG256C	✓	
			LCMXO2-4000HE-4FTG256I	✓	
			LCMXO2-4000HE-5FTG256I	✓	
			LCMXO2-4000HE-6FTG256I	✓	
		332-caBGA	LCMXO2-4000HE-4BG332C	✓	
			LCMXO2-4000HE-5BG332C	✓	
			LCMXO2-4000HE-6BG332C	✓	
			LCMXO2-4000HE-4BG332I	✓	
			LCMXO2-4000HE-5BG332I	✓	
			LCMXO2-4000HE-6BG332I	✓	
		484-fpBGA	LCMXO2-4000HE-4FG484C	✓	
			LCMXO2-4000HE-5FG484C	✓	
			LCMXO2-4000HE-6FG484C	✓	
			LCMXO2-4000HE-4FG484I	✓	
			LCMXO2-4000HE-5FG484I	✓	
			LCMXO2-4000HE-6FG484I	✓	
	7000HE	144-TQFP	LCMXO2-7000HE-4TG144C	✓	
			LCMXO2-7000HE-5TG144C	✓	
			LCMXO2-7000HE-6TG144C	✓	
			LCMXO2-7000HE-4TG144I	✓	
			LCMXO2-7000HE-5TG144I	✓	
			LCMXO2-7000HE-6TG144I	✓	
		256-caBGA	LCMXO2-7000HE-4BG256C	✓	
			LCMXO2-7000HE-5BG256C	✓	
			LCMXO2-7000HE-6BG256C	✓	
			LCMXO2-7000HE-4BG256I	✓	
			LCMXO2-7000HE-5BG256I	✓	
			LCMXO2-7000HE-6BG256I	✓	
		256-ftBGA	LCMXO2-7000HE-4FTG256C	✓	
			LCMXO2-7000HE-5FTG256C	✓	
			LCMXO2-7000HE-6FTG256C	✓	
			LCMXO2-7000HE-4FTG256I	✓	
			LCMXO2-7000HE-5FTG256I	✓	
			LCMXO2-7000HE-6FTG256I	✓	

Note: This PCN also affects any custom devices (i.e. factory programmed, special test, tape and reel, non-standard speed grade and package, etc.), which are derived from any of the devices listed above.

Family	Device	Package	Ordering Part Number	Switching Characteristics	Pin-Out Changes
MachXO2HE (contd.)	7000HE (contd.)	332-caBGA	LCMXO2-7000HE-4BG332C	✓	
			LCMXO2-7000HE-5BG332C	✓	
			LCMXO2-7000HE-6BG332C	✓	
			LCMXO2-7000HE-4BG332I	✓	
			LCMXO2-7000HE-5BG332I	✓	
			LCMXO2-7000HE-6BG332I	✓	
		484-fpBGA	LCMXO2-7000HE-4FG484C	✓	
			LCMXO2-7000HE-5FG484C	✓	
			LCMXO2-7000HE-6FG484C	✓	
			LCMXO2-7000HE-4FG484I	✓	
			LCMXO2-7000HE-5FG484I	✓	
			LCMXO2-7000HE-6FG484I	✓	
MachXO2ZE	256ZE	100-TQFP	LCMXO2-256ZE-1TG100C	✓	✓
			LCMXO2-256ZE-2TG100C	✓	✓
			LCMXO2-256ZE-3TG100C	✓	✓
			LCMXO2-256ZE-1TG100I	✓	✓
			LCMXO2-256ZE-2TG100I	✓	✓
			LCMXO2-256ZE-3TG100I	✓	✓
		132-csBGA	LCMXO2-256ZE-1MG132C	✓	✓
			LCMXO2-256ZE-2MG132C	✓	✓
			LCMXO2-256ZE-3MG132C	✓	✓
			LCMXO2-256ZE-1MG132I	✓	✓
			LCMXO2-256ZE-2MG132I	✓	✓
			LCMXO2-256ZE-3MG132I	✓	✓
		64-ucBGA	LCMXO2-256ZE-1UMG64C	✓	
			LCMXO2-256ZE-2UMG64C	✓	
			LCMXO2-256ZE-3UMG64C	✓	
			LCMXO2-256ZE-1UMG64I	✓	
			LCMXO2-256ZE-2UMG64I	✓	
			LCMXO2-256ZE-3UMG64I	✓	
	640ZE	100-TQFP	LCMXO2-640ZE-1TG100C	✓	✓
			LCMXO2-640ZE-2TG100C	✓	✓
			LCMXO2-640ZE-3TG100C	✓	✓
			LCMXO2-640ZE-1TG100I	✓	✓
			LCMXO2-640ZE-2TG100I	✓	✓
			LCMXO2-640ZE-3TG100I	✓	✓
132-csBGA		LCMXO2-640ZE-1MG132C	✓	✓	
		LCMXO2-640ZE-2MG132C	✓	✓	
		LCMXO2-640ZE-3MG132C	✓	✓	
		LCMXO2-640ZE-1MG132I	✓	✓	
		LCMXO2-640ZE-2MG132I	✓	✓	
		LCMXO2-640ZE-3MG132I	✓	✓	

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Family	Device	Package	Ordering Part Number	Switching Characteristics	Pin-Out Changes
MachXO2ZE (contd.)	1200ZE	100-TQFP	LCMXO2-1200ZE-1TG100C	✓	
			LCMXO2-1200ZE-2TG100C	✓	
			LCMXO2-1200ZE-3TG100C	✓	
			LCMXO2-1200ZE-1TG100I	✓	
			LCMXO2-1200ZE-2TG100I	✓	
			LCMXO2-1200ZE-3TG100I	✓	
		132-csBGA	LCMXO2-1200ZE-1MG132C	✓	
			LCMXO2-1200ZE-2MG132C	✓	
			LCMXO2-1200ZE-3MG132C	✓	
			LCMXO2-1200ZE-1MG132I	✓	
			LCMXO2-1200ZE-2MG132I	✓	
			LCMXO2-1200ZE-3MG132I	✓	
		144-TQFP	LCMXO2-1200ZE-1TG144C	✓	
			LCMXO2-1200ZE-2TG144C	✓	
			LCMXO2-1200ZE-3TG144C	✓	
			LCMXO2-1200ZE-1TG144I	✓	
			LCMXO2-1200ZE-2TG144I	✓	
			LCMXO2-1200ZE-3TG144I	✓	
	25-WLCSP	LCMXO2-1200ZE-1UWG25ITR	✓		
	2000ZE	100-TQFP	LCMXO2-2000ZE-1TG100C	✓	
			LCMXO2-2000ZE-2TG100C	✓	
			LCMXO2-2000ZE-3TG100C	✓	
			LCMXO2-2000ZE-1TG100I	✓	
			LCMXO2-2000ZE-2TG100I	✓	
			LCMXO2-2000ZE-3TG100I	✓	
		132-csBGA	LCMXO2-2000ZE-1MG132C	✓	
			LCMXO2-2000ZE-2MG132C	✓	
			LCMXO2-2000ZE-3MG132C	✓	
			LCMXO2-2000ZE-1MG132I	✓	
			LCMXO2-2000ZE-2MG132I	✓	
			LCMXO2-2000ZE-3MG132I	✓	
		144-TQFP	LCMXO2-2000ZE-1TG144C	✓	
			LCMXO2-2000ZE-2TG144C	✓	
			LCMXO2-2000ZE-3TG144C	✓	
			LCMXO2-2000ZE-1TG144I	✓	
			LCMXO2-2000ZE-2TG144I	✓	
			LCMXO2-2000ZE-3TG144I	✓	
		256-caBGA	LCMXO2-2000ZE-1BG256C	✓	
			LCMXO2-2000ZE-2BG256C	✓	
			LCMXO2-2000ZE-3BG256C	✓	
			LCMXO2-2000ZE-1BG256I	✓	
			LCMXO2-2000ZE-2BG256I	✓	
LCMXO2-2000ZE-3BG256I			✓		

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Family	Device	Package	Ordering Part Number	Switching Characteristics	Pin-Out Changes		
MachXO2ZE (contd.)	2000ZE (contd.)	256-ftBGA	LCMXO2-2000ZE-1FTG256C	✓			
			LCMXO2-2000ZE-2FTG256C	✓			
			LCMXO2-2000ZE-3FTG256C	✓			
			LCMXO2-2000ZE-1FTG256I	✓			
			LCMXO2-2000ZE-2FTG256I	✓			
			LCMXO2-2000ZE-3FTG256I	✓			
	4000ZE	132-csBGA	132-csBGA	LCMXO2-4000ZE-1MG132C	✓		
				LCMXO2-4000ZE-2MG132C	✓		
				LCMXO2-4000ZE-3MG132C	✓		
				LCMXO2-4000ZE-1MG132I	✓		
				LCMXO2-4000ZE-2MG132I	✓		
				LCMXO2-4000ZE-3MG132I	✓		
		144-TQFP	144-TQFP	144-TQFP	LCMXO2-4000ZE-1TG144C	✓	
					LCMXO2-4000ZE-2TG144C	✓	
					LCMXO2-4000ZE-3TG144C	✓	
					LCMXO2-4000ZE-1TG144I	✓	
					LCMXO2-4000ZE-2TG144I	✓	
					LCMXO2-4000ZE-3TG144I	✓	
		256-caBGA	256-caBGA	256-caBGA	LCMXO2-4000ZE-1BG256C	✓	
					LCMXO2-4000ZE-2BG256C	✓	
					LCMXO2-4000ZE-3BG256C	✓	
					LCMXO2-4000ZE-1BG256I	✓	
					LCMXO2-4000ZE-2BG256I	✓	
					LCMXO2-4000ZE-3BG256I	✓	
		256-ftBGA	256-ftBGA	256-ftBGA	LCMXO2-4000ZE-1FTG256C	✓	
					LCMXO2-4000ZE-2FTG256C	✓	
					LCMXO2-4000ZE-3FTG256C	✓	
					LCMXO2-4000ZE-1FTG256I	✓	
					LCMXO2-4000ZE-2FTG256I	✓	
					LCMXO2-4000ZE-3FTG256I	✓	
		332-caBGA	332-caBGA	332-caBGA	LCMXO2-4000ZE-1BG332C	✓	
					LCMXO2-4000ZE-2BG332C	✓	
					LCMXO2-4000ZE-3BG332C	✓	
					LCMXO2-4000ZE-1BG332I	✓	
					LCMXO2-4000ZE-2BG332I	✓	
					LCMXO2-4000ZE-3BG332I	✓	
		484-fpBGA	484-fpBGA	484-fpBGA	LCMXO2-4000ZE-1FG484C	✓	
					LCMXO2-4000ZE-2FG484C	✓	
					LCMXO2-4000ZE-3FG484C	✓	
					LCMXO2-4000ZE-1FG484I	✓	
					LCMXO2-4000ZE-2FG484I	✓	
					LCMXO2-4000ZE-3FG484I	✓	

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Family	Device	Package	Ordering Part Number	Switching Characteristics	Pin-Out Changes
MachXO2ZE (contd.)	7000ZE	144-TQFP	LCMXO2-7000ZE-1TG144C	✓	
			LCMXO2-7000ZE-2TG144C	✓	
			LCMXO2-7000ZE-3TG144C	✓	
			LCMXO2-7000ZE-1TG144I	✓	
			LCMXO2-7000ZE-2TG144I	✓	
			LCMXO2-7000ZE-3TG144I	✓	
		256-caBGA	LCMXO2-7000ZE-1BG256C	✓	
			LCMXO2-7000ZE-2BG256C	✓	
			LCMXO2-7000ZE-3BG256C	✓	
			LCMXO2-7000ZE-1BG256I	✓	
			LCMXO2-7000ZE-2BG256I	✓	
			LCMXO2-7000ZE-3BG256I	✓	
		256-ftBGA	LCMXO2-7000ZE-1FTG256C	✓	
			LCMXO2-7000ZE-2FTG256C	✓	
			LCMXO2-7000ZE-3FTG256C	✓	
			LCMXO2-7000ZE-1FTG256I	✓	
			LCMXO2-7000ZE-2FTG256I	✓	
			LCMXO2-7000ZE-3FTG256I	✓	
		332-caBGA	LCMXO2-7000ZE-1BG332C	✓	
			LCMXO2-7000ZE-2BG332C	✓	
			LCMXO2-7000ZE-3BG332C	✓	
			LCMXO2-7000ZE-1BG332I	✓	
			LCMXO2-7000ZE-2BG332I	✓	
			LCMXO2-7000ZE-3BG332I	✓	
		484-fpBGA	LCMXO2-7000ZE-1FG484C	✓	
			LCMXO2-7000ZE-2FG484C	✓	
			LCMXO2-7000ZE-3FG484C	✓	
			LCMXO2-7000ZE-1FG484I	✓	
			LCMXO2-7000ZE-2FG484I	✓	
			LCMXO2-7000ZE-3FG484I	✓	

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