

### **MachXO Data Sheet All Section Revision History**

<b>Date</b>	<b>Version</b>	<b>Section Versions</b>	<b>Change Summary</b>
July, 2005	01.0	01.0	Section 1 Introduction
		01.0	Section 2 Architecture
		01.0	Section 3 DC and Switching Characteristics
		01.0	Section 4 Pinout Information
		01.1	Section 5 Ordering Information
		01.0	Section 6 Supplemental Information
October, 2005	01.1	01.1	Section 1 Introduction
		01.1	Section 2 Architecture
		01.1	Section 3 DC and Switching Characteristics
		01.1	Section 4 Pinout Information
		01.2	Section 5 Ordering Information
		01.1	Section 6 Supplemental Information
November, 2005	01.2	01.1	Section 1 Introduction
		01.1	Section 2 Architecture
		01.1	Section 3 DC and Switching Characteristics
		01.2	Section 4 Pinout Information
		01.2	Section 5 Ordering Information
		01.1	Section 6 Supplemental Information
December, 2005	01.3	01.1	Section 1 Introduction
		01.1	Section 2 Architecture
		01.2	Section 3 DC and Switching Characteristics
		01.2	Section 4 Pinout Information
		01.3	Section 5 Ordering Information
		01.1	Section 6 Supplemental Information
April, 2006	02.0	01.2	Section 1 Introduction
		01.2	Section 2 Architecture
		01.3	Section 3 DC and Switching Characteristics
		01.3	Section 4 Pinout Information
		01.4	Section 5 Ordering Information
		01.1	Section 6 Supplemental Information
May, 2006	02.0	01.2	Section 1 Introduction
		01.2	Section 2 Architecture
		01.3	Section 3 DC and Switching Characteristics
		01.4	Section 4 Pinout Information
		01.4	Section 5 Ordering Information
		01.1	Section 6 Supplemental Information

### **MachXO Data Sheet Introduction Section Revision History**

Date	Version	Page	Change Summary
July, 2005	01.0	--	Initial release to web.
October, 2005	01.1	1-1	Family table has been updated (Dist. RAM information). Added footnote 1. fpBGA packaging to the family selection guide.
April, 2006	01.2	1-1 ~ 1-2	Introduction paragraphs have been updated.

### **MachXO Data Sheet Architecture Section Revision History**

Date	Version	Page	Change Summary
July, 2005	01.0	--	Initial release on web.
October, 2005	01.1	2-15	sysIO Buffer section has been updated.
		2-20	Hot Socketing section has been updated. Sleep Mode section has been updated.
		2-21	SLEEP Pin Characteristics section has been updated. Oscillator section has been updated.
		2-22	Security section has been updated.
April, 2006	01.2	2-1	Architecture Overview paragraphs have been updated.
		2-2 ~ 2-3	Figure 2-1, 2-2 and 2-3 have been updated.
		2-4	Figure 2-5 has been updated. Table 2-1. has been updated.
		2-6	Routing section has been updated.
		2-9	sysCLOCK Phase Locked Loops (PLLs) section has been updated. Figure 2-10 has been updated.
		2-10	Table 2-5 has been updated. sysMEM Memory section has been updated.
		2-13	PIO Groups section has been updated.
		2-14	PIO section has been updated.
		2-15	Figure 2-16 notes have been updated.
		2-17	Table 2-9 has been updated.
		2-22	Figure 2-21 has been updated.

### **MachXO Data Sheet DC and Switching Characteristic Section Revision History**

Date	Version	Page	Change Summary
July, 2005	01.0	--	Initial release on web.
October, 2005	01.1	3-1	Recommended Operating Conditions table has been updated.
		3-2	DC Electrical Characteristics table has been updated. Supply Current (Sleep Mode) table has been added with LCMXO256/640 data.
		3-3	Supply Current (Standby) table has been updated with LCMXO256/640 data.
		3-4	Initialization Supply Current table has been updated with LCMXO256/640 data.
		3-5	Programming and Erase Flash Supply Current table has been updated with LCMXO256/640 data.
		3-12	Register-to-Register Performance table has been updated (rev. A 0.16).
		3-13	External Switching Characteristics table has been updated (rev. A 0.16).
		3-14	Internal Timing Parameter table has been updated (rev. A 0.16).
		3-20	Family Timing Adders have been updated (rev. A 0.16).
		3-21	sysCLOCK Timing has been updated (rev. A 0.16). MachXO "C" Sleep Mode Timing has been updated (A 0.16).
		3-22	JTAG Port Timing Specification has been updated (rev. A 0.16).
December, 2005	01.2	3-2	Supply Current (Standby) table has been updated with LCMXO1200/2280 data.
April, 2006	01.3	3-1	Recommended Operating Conditions table, footnotes have been updated. MachXO256 and MachXO640 Hot Socketing Specifications, footnotes have been updated.
		3-2	Added MachXO1200 and MachXO2280 Hot Socketing Specifications table. DC Electrical Characteristics, footnotes have been updated.
		3-3	Supply Current (Sleep Mode) table has been updated, removed "4W" references. Footnotes have been updated. Supply Current (Standby) table and associated footnotes have been updated.
		3-4	Initialization Supply Current table and footnotes have been updated.
		3-5	Programming and Erase Flash Supply Current table and associated footnotes have been updated.
		3-12	Register-to-Register Performance table has been updated (rev. A 0.19).
		3-13	MachXO External Switching Characteristics have been updated (rev. A 0.19).
		3-14	MachXO Internal Timing Parameters have been updated (rev. A 0.19).
		3-15	MachXO Family Timing Adders have been updated (rev. A 0.19).
		3-16	sysCLOCK Timing has been updated (rev. A 0.19). MachXO "C" Sleep Mode Timing has been updated (A 0.19).
		3-17	JTAG Port Timing Specification has been updated (rev. A 0.19).
3-18	Table 3-15 has been updated.		

**MachXO Data Sheet Pinout Information Section Revision History**

Date	Version	Page	Change Summary
July, 2005	01.0	--	Initial release on web.
October, 2005	01.1	4-1	SLEEPIN description has been updated.
		4-2	Pin Information Summary has been updated.
		4-3	Power Supply and NC Connection table has been updated.
		4-4 ~ 4-34	Logic Signal Connection section has been updated to include all devices/packages.
November, 2005	01.2	4-3	Added "Power Supply and NC Connections" summary information for LCMXO1200 and LCMXO2280 in 100-TQFP package
April, 2006	01.3	4-1	Signal Descriptions have been updated.
		4-2	Pin Information Summary has been updated. Footnote has been added.
		4-3 ~ 4-4	Power Supply and NC Connection table has been updated.
		4-5 ~ 4-36	Logic Signal Connections have been updated (PCLKTx_x --> PCLKx_x)
May, 2006	01.4	4-1	Removed [LOC][0]_PLL_RST from Signal Description table.
		4-5 ~ 4-36	PCLK footnote has been added to all appropriate pins.

**MachXO Data Sheet Ordering Information Section Revision History**

Date	Version	Page	Change Summary
July, 2005	01.1	--	Initial release on web.
October, 2005	01.2	5-1	Part Number Description section has been updated.
		5-2 ~ 5-11	Ordering Part Number section has been updated (Added LCMXO256C/LCMXO640C "4W").
December, 2005	01.3	5-2 ~ 5-11	Ordering Part Number section has been updated (Added LCMXO2280C "4W").
April, 2006	01.4	5-1 ~ 5-15	Removed "4W" references. Added 256-ftBGA Ordering Part Numbers for MachXO640.

**MachXO Data Sheet Supplemental Information Section Revision History**

Date	Version	Page	Change Summary
July, 2005	01.0	6-1	Initial release on web.
October, 2005	02.0	6-1	"MachXO Density Migration Technical Note (TN1097)" has been added.