

Migrating MX29GL512E to MX29GL512F

1. Introduction

This application note describes the major differences between MX29GL512F and MX29GL512E. All the information in this document is based on the latest datasheet of the MX29GL512F and it will be subject to change if there are any discrepancies occurred.

2. Feature Comparison

Part Number		MX29GL512E		MX29GL512F		
Voltage		2.7~3.6 V		2.7~3.6 V		
Package		70-SSOP 56-TSOP (14x20mm ²) 64-LFBGA (11x13mm ²)		70-SSOP 56-TSOP (14x20mm ²) 64-LFBGA (11x13mm ²)		
Feature						
Sector Architecture		128KBx512		128KBx512		
Configuration		x8 / x16		x8 / x16		
Boot Block		Uniform		Uniform		
CFI (Common Flash Interface)		Yes		Yes		
Security Sector		256 bytes		256 bytes		
Parameter		Typ.	Max.	Min.	Typ.	Max.
Access Time (Taa) 3.0~3.6V	ns		100			100
Access Time (Taa) 2.7~3.6V	ns		110			110
Word Program Time	us	11	360		11	360
Chip Program Time	sec	200	700		200	700
Sector Erase Time	sec	0.6	5		0.6	5
Chip Erase Time	sec	256	600		256	600
Total Write Buffer Time	us	200			120	
Erase/Program Cycle	cycle	100,000		100,000		

3. DC Specifications

Parameter	MX29GL512E	MX29GL512F
Icr1, Read current (1MHz, mA)	20 (Max.)	20 (Max.)
Icr1, Read current (5MHz, mA)	50 (Max.)	50 (Max.)
Icr2, VCC Page Read current (10MHz, mA)	10 (Max.)	10 (Max.)
Icw, Write current (mA)	30 (Max.)	30 (Max.)
Isb, Standby current (uA)	200 (Max.)	200 (Max.)
Isbr, Reset current	200 (Max.)	200 (Max.)

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4. AC/DC Specifications

Parameter	MX29GL512E	MX29GL512F
Taa, Valid data output after address (ns)	100/110 (Max.)	100/110 (Max.)
Tce, Valid data output after CE# low (ns)	100/110 (Max.)	100/110 (Max.)
Toe, Valid data output after OE# low (ns)	25 (Max.)	25 (Max.)
Tpa, Page access time (ns)	25 (Max.)	25 (Max.)
Trc, Read period time (ns)	100/110 (Max.)	100/110 (Max.)
Twc, Write period time (ns)	100/110 (Max.)	100/110 (Max.)
Tcwc, Command period time (ns)	100/110 (Max.)	100/110 (Max.)

5. Manufacturer ID & Device ID Comparison

Part Number	MX29GL512E	MX29GL512F
Manufacturer ID	00C2h	00C2h
Device ID (Cycle 1, 2, 3)	22AEh 2223h 2201h	22AEh 2223h 2201h

6. Software Notices

The software commands of MX29GL512F are all the same as the ones of MX29GL512E.

7. References

The following datasheets were applied for preparing this comparison notes:

Datasheet	Location	Date Issued	Versions
MX29GL512E	Macronix Website	Jun. 16, 2011	1.2
MX29GL512F	Macronix Website	Jan. 19, 2012	1.2

For more functional and parametric specifications, please refer to the datasheet on the Macronix Website at <http://www.macronix.com/> and go to: Products/Flash Memory/Parallel Flash.



APPLICATION NOTE

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