Preface

This supplementary document provides information on a device designed for limited distribution. It describes how the features, operation, and ordering options of this device have been enhanced or changed from the standard device on which it is based. The information contained in this document modifies any information on the same topics established by the data sheets listed in the Table 2, and should be used in conjunction with those documents. This document may also contain information that was not previously covered by data sheets S34MS-1. It is intended for hardware system designers and software developers of applications, operating systems, or tools.

Parameter Page

Prior to reading the Unique ID, check the Unique-ID read Support value provided in Table 1.

Table 1. 48 nm / 41 nm Parameter Page with Unique-ID Read Support[1]

Technology	Density	Partial OPN	Byte 8	Byte 254	Byte 255
48 nm	1 Gb	S34MS01G100	33h	6Ch	EDh
		S34MS01G104	33h	1Eh	9Bh
41 nm	2 Gb	S34MS02G100	3Bh	A8h	4Bh
		S34MS02G104	3Bh	DAh	3Dh
	4 Gb	S34MS04G100	3Bh	D6h	00h
		S34MS04G104	3Bh	A4h	76h

Note
1. All other parameters can be found in the S34MS-1 datasheets.

Table 2. Affected Documents/Related Documents

Title	Publication Number
S34MS01G1, S34MS02G1, S34MS04G1 1-BIT ECC, X8 AND X16 I/O, 1.8V VCC SLC NAND Flash for Embedded	002-00330

1. Read Unique ID

The device supports the ONFI Read Unique ID function, initiated by writing below command sequence to the command register, followed by an address input of Block# 0, Page# 2, as shown in Figure 1. The host must monitor the R/B# pin or wait for the maximum data transfer time (tR) before reading the Unique ID data. The first sixteen bytes returned by the flash is a unique value. The next sixteen bytes returned are the bit-wise complement of the unique value. The host can verify the Unique ID was read correctly by performing an XOR of the two values. The result should be all ones. If the result is not all ones, the host needs to repeat the XOR operation with the next copy of Unique ID data and its complement. There are 512 Unique ID bytes: 256 Unique and 256 ID complement (see Table 3). Figure 2 and Figure 3 shows the test mode entry and the complete unique ID timing diagram. The command register remains in Unique ID mode until further commands are issued to it.

Note: For 41nm 2Gb/4Gb Cypress NAND, for a particular condition, the Read Unique ID command does not give the correct values. To overcome this issue, the host must issue a Reset command before the Read Unique ID command. Issuance of Reset before the Read Unique ID command will provide the correct values and will not output 00h values. This does not apply to 48nm 1Gb.

Figure 1. 48 nm / 41 nm Unique-ID Read

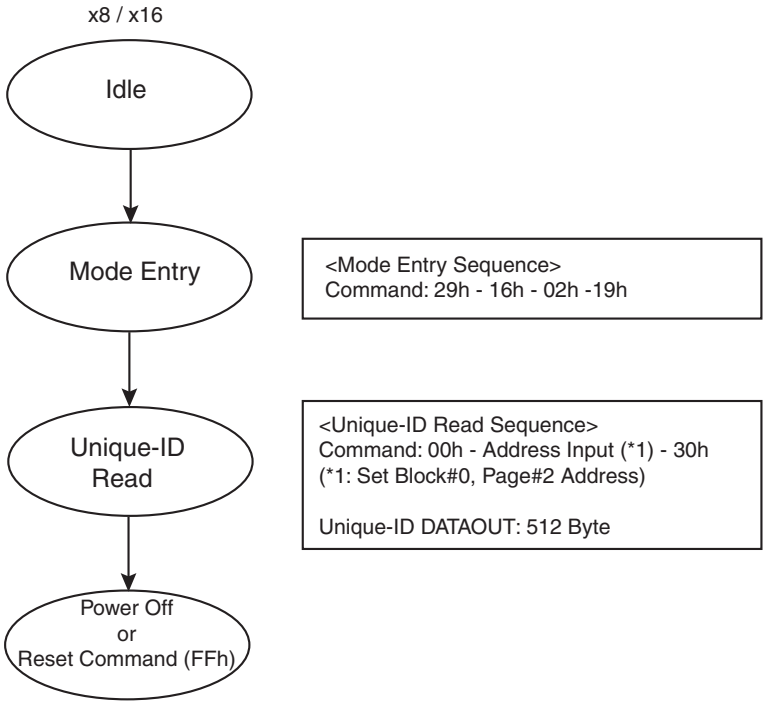


Figure 2. Unique ID Mode Entry

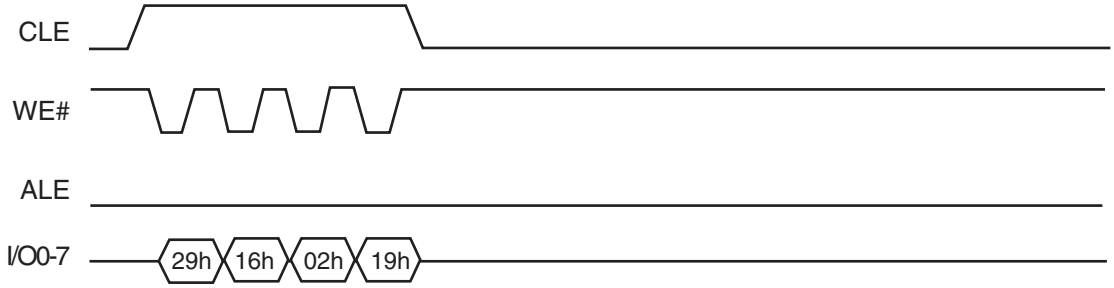


Figure 3. Unique ID Read (Set Block#0, Page# 2, Address; Unique ID Data Out: 512 Bytes)

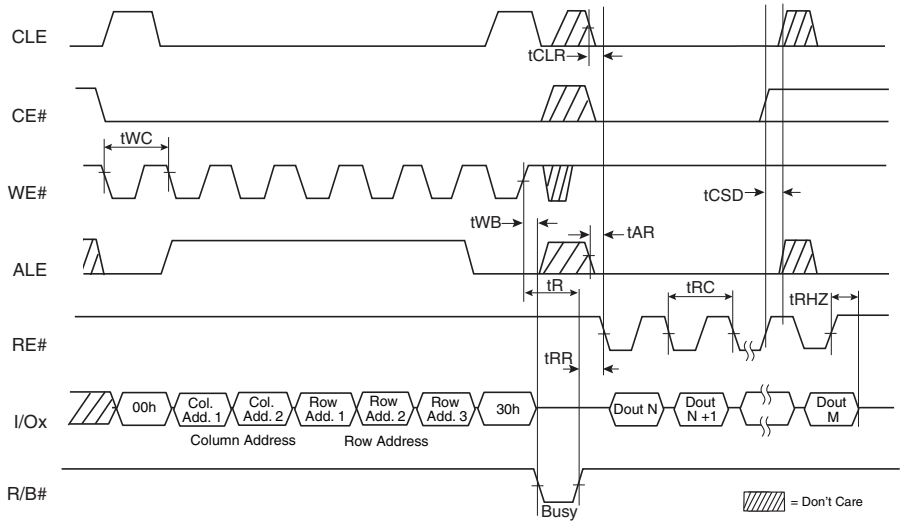


Table 3. Unique ID Data Description (Contact Factory)

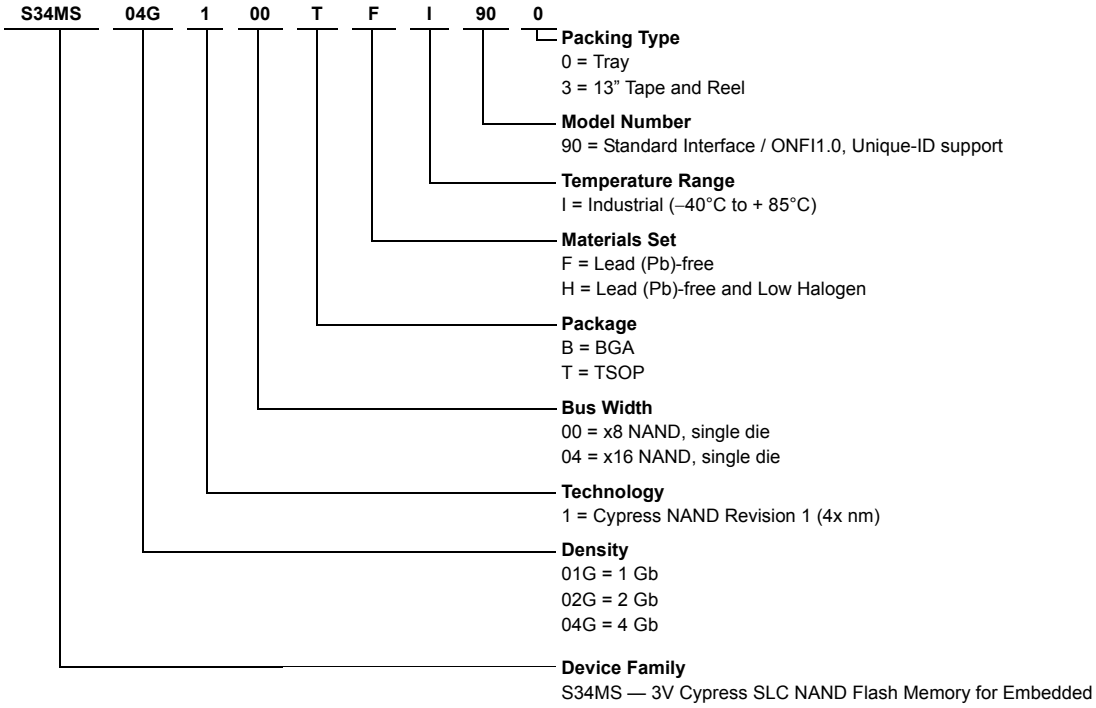
Byte	Description
0-15	Unique ID
16-31	ID Complement
32-47	Unique ID
48-63	ID Complement
64-79	Unique ID
80-95	ID Complement
96-111	Unique ID
112-127	ID Complement
128-143	Unique ID
144-159	ID Complement
160-175	Unique ID
176-191	ID Complement
192-207	Unique ID
208-223	ID Complement
224-239	Unique ID
240-255	ID Complement
256-271	Unique ID
272-287	ID Complement
288-303	Unique ID
304-319	ID Complement
320-335	Unique ID
336-351	ID Complement

Table 3. Unique ID Data Description (Contact Factory)

Byte	Description
352-367	Unique ID
368-383	ID Complement
384-399	Unique ID
400-415	ID Complement
416-431	Unique ID
432-447	ID Complement
448-463	Unique ID
464-479	ID Complement
480-495	Unique ID
496-511	ID Complement

2. Ordering Information

The ordering part number is formed by a valid combination of the following:



Valid Combinations

Valid Combinations list configurations planned to be supported in volume for this device. Contact your local sales office to confirm availability of specific valid combinations and to check on newly released combinations.

Valid Combinations								
Device Family	**Density**	**Technology**	**Bus Width**	**Package Type**	**Temperature Range**	**Additional Ordering Options**	**Packing Type**	**Package Description**
S34MS	01G	1	00, 04	TF, BH	I	90	0, 3	TSOP, BGA[2]
	02G							
	04G							

Note

2. BGA package marking omits the leading “S34” and the Packing Type designator from the ordering part number.

3. Revision History

Spansion Publication Number: S34MS-1_Read_Unique_ID_SP

Section	Description
Revision 01 (June 9, 2014)	
	Initial release

Document Title: S34MS-1, 1-Bit ECC **Document Number: 002-00357**				
Rev.	**ECN**	**Orig. of Change**	**Submission Date**	**Description of Change**
**	–	–	06/09/2014	Initial release
*A	5090619	MOH	01/20/2016	Updated Parameter Page. Added Read Unique ID. Updated to Cypress template.
*B	5260137	XILA	05/05/2016	Updated Read Unique ID: Updated description. Updated to new template.

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