



Migration from EN25B05 to EN25F05

Part No. :	EN25F05
Issued date :	2008 / 05 / 29
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1. Purpose

EN25B05 will EOL and be replaced by EN25F05 which can offer uniform 4Kbytes sector and allow for greater flexibility in applications. This note highlights the difference between those two devices. It helps customers to migrate into new device.

2. Difference

- **High Performance**

EN25F05 ---100MHz clock rate

EN25B05 ---75MHz clock rate

- **Block Sector Architecture**

EN25F05 : Uniform sector Architecture

- 16 sectors of 4KB
- 2 blocks of 32KB
- Any sector or block can be erased individually

EN25B05 : Flexible sector Architecture

- Two 4KB, one 8KB, one 16KB and one 32KB sectors

- **Erasable**

EN25F05 --- Sector, Block or Chip erasable

EN25B05 --- Sector or Chip erasable

Note : In the condition of erasing the boot sector of EN25B05 to be replaced with EN25F05, one or multiple sector erase command (20h) must be issued in EN25F05 depending on the sector size.

The correlation table is shown below.



Sector Size	Address Range	EN25B20	EN25F20
4KByte	00000h-00FFFh	Issue sector erase (D8h) for sector 0	Issue sector erase (20h) for sector 0
4KByte	01000h-01FFFh	Issue sector erase (D8h) for sector 1	Issue sector erase (20h) for sector 1
8KByte	02000h-03FFFh	Issue sector erase (D8h) for sector 2	Issue sector erase (20h) for sector 2
			Issue sector erase (20h) for sector 3
16KByte	04000h-07FFFh	Issue sector erase (D8h) for sector 3	Issue sector erase (20h) for sector 4
			Issue sector erase (20h) for sector 5
			Issue sector erase (20h) for sector 6
			Issue sector erase (20h) for sector 7
32KByte	08000h-0FFFFh	Issue sector erase (D8h) for sector 4	Issue sector erase (20h) for sector 8
			.
			Issue sector erase (20h) for sector 15

- **Support Lockable 256 byte OTP security sector**
EN25F05 ---Yes
EN25B05 ---No

● **Manufacturer and Device Identification**

EN25F05 :

OP Code	(M7-M0)	(ID15-ID0)	(ID7-ID0)
ABh			05h
90h	1Ch		05h
9Fh	1Ch	3110h	

EN25B05 :

Boot Type	OP Code	(M7-M0)	(ID15-ID0)	(ID7-ID0)
EN25B05(Bottom Boot)	ABh / 90h	1Ch		95h
	9Fh	1Ch	2010h	
EN25B05T(Top Boot)	ABh / 90h	1Ch		25h
	9Fh	1Ch	2010h	

● **Protected Area Sizes Sector Organization**

EN25F05 :

Status Register Content			Memory Content			
BP2 Bit	BP1 Bit	BP0 Bit	Protect Blocks	Addresses	Density(KB)	Portion
1	1	1	All	000000h-00FFFFh	64KB	All
1	1	0	sector 0 to sector 14	000000h-00EFFFh	60KB	Lower 15/16
1	0	1	sector 0 to sector 13	000000h-00DFFFh	240KB	Lower 7/8
1	0	0	None	None	None	None
0	1	1	All	000000h-00FFFFh	256KB	All
0	1	0	PP, BE and SE is enabled without checking address; all sectors protected against			
0	0	1	Bulk Erase			
0	0	0	None	None	None	None

EN25B05 :

Status Register Content			Memory Content			
BP2 Bit	BP1 Bit	BP0 Bit	Protect Sectors	Addresses	Density(KB)	Portion
1	1	1	All	000000h-00FFFFh	64KB	All
1	1	0	All	000000h-00FFFFh	64KB	All
1	0	1	All	000000h-00FFFFh	64KB	All
1	0	0	Sector 0 to 3	000000h-007FFFh	32KB	Lower 1/2
0	1	1	Sector 0 to 2	000000h-003FFFh	16KB	Lower 1/4
0	1	0	Sector 0 to 1	000000h-001FFFh	8KB	Lower 1/8
0	0	1	Sector 0	000000h-000FFFh	4KB	Lower 1/16
0	0	0	None	None	None	None

● Instruction Set Comparison

A Sector Erase (20h) instruction is implemented in EN25F05 for 4KB sector erase.
 A Block Erase (D8h) instruction in EN25F05 is compatible with EN25B05 for 64KB block erase and the chip erase instruction is same between two devices.

EN25F20 :

Instruction Name	Byte 1 Code	Byte 2	Byte 3	Byte 4	Byte 5	Byte 6	n-Bytes
Sector Erase	20h	A23-A16	A15-A8	A7-A0			
Block Erase	D8h/ 52h	A23-A16	A15-A8	A7-A0			
Chip Erase	C7h/ 60h						
Enter OTP mode	3Ah						

EN25B05 :

Instruction Name	Byte 1 Code	Byte 2	Byte 3	Byte 4	Byte 5	Byte 6	n-Bytes
Sector Erase	D8h	A23-A16	A15-A8	A7-A0			
Bulk Erase	C7h						



Revisions History

Revision No	Description	Date
A	Initial Release.	2008/05/29