



## Migration from EN25B20 to EN25F20

<b>Part No. :</b>	<b>EN25F20</b>
<b>Issued date :</b>	<b>2008 / 03 / 25</b>
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## 1. Purpose

EN25B20 will EOL and be replaced by EN25F20 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**

EN25F20 ---100MHz clock rate

EN25B20 ---75MHz clock rate

- **Block Sector Architecture**

EN25F20 : Uniform sector Architecture

- 64 sectors of 4KB
- 4 blocks of 64KB
- Any sector or block can be erased individually

EN25B20 : Flexible sector Architecture

- Two 4KB, one 8KB, one 16KB, one 32KB and three 64KB sectors

- **Erasable**

EN25F20 --- Sector, Block or Chip erasable

EN25B20 --- Sector or Chip erasable

**Note :** In the condition of erasing the boot sector of EN25B20 to be replaced with EN25F20, one or multiple sector erase command (20h) must be issued in EN25F20 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**  
EN25F20 ---Yes  
EN25B20 ---No

● **Manufacturer and Device Identification**

EN25F20 :

OP Code	(M7-M0)	(ID15-ID0)	(ID7-ID0)
ABh			11h
90h	1Ch		11h
9Fh	1Ch	3112h	

EN25B20 :

Boot Type	OP Code	(M7-M0)	(ID15-ID0)	(ID7-ID0)
EN25B20(Bottom Boot)	ABh			31h
	90h	1Ch		31h
	9Fh	1Ch	2012h	

● **Protected Area Sizes Sector Organization**

EN25F20 :

Status Register Content			Memory Content			
BP2 Bit	BP1 Bit	BP0 Bit	Protect Blocks	Addresses	Density(KB)	Portion
1	1	1	All	000000h-03FFFFh	256KB	All
1	1	0	sector 0 to sector 61	000000h-03DFFFh	248KB	Lower 31/32
1	0	1	sector 0 to sector 59	000000h-03BFFFh	240KB	Lower 30/32
1	0	0	None	None	None	None
0	1	1	All	000000h-03FFFFh	256KB	All
0	1	0	Block 2 to 3	020000h-03FFFFh	128KB	Upper 1/2
0	0	1	Block 3	030000h-03FFFFh	64KB	Upper 1/4
0	0	0	None	None	None	None

EN25B20 :

Status Register Content			Memory Content			
BP2 Bit	BP1 Bit	BP0 Bit	Protect Sectors	Addresses	Density(KB)	Portion
0	0	0	None	None	None	None
0	0	1	Sector 7	03F000h-03FFFFh	4KB	Upper 1/64
0	1	0	Sector 6 to 7	03E000h-03FFFFh	8KB	Upper 1/32
0	1	1	Sector 5 to 7	03C000h-03FFFFh	16KB	Upper 1/16
1	0	0	Sector 4 to 7	038000h-03FFFFh	32KB	Upper 1/8
1	0	1	Sector 3 to 7	030000h-03FFFFh	64KB	Upper 1/4
1	1	0	Sector 2 to 7	020000h-03FFFFh	128KB	Upper 1/2
1	1	1	All	000000h-03FFFFh	256KB	All

## ● Instruction Set Comparison

A Sector Erase (20h) instruction is implemented in EN25F20 for 4KB sector erase. A Block Erase (D8h) instruction in EN25F20 is compatible with EN25B20 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						

EN25B20 :

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.	2008/03/25