



Migration from EN25B32 to EN25F32

Part No. :	EN25F32
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1. Purpose

EN25B32 will EOL and be replaced by EN25F32 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**

EN25F32---100MHz clock rate

EN25B32---100MHz clock rate

- **Block Sector Architecture**

EN25F32 : Uniform sector Architecture

- 1024 sectors of 4KB
- 64 blocks of 64KB
- Any sector or block can be erased individually

EN25B32 : Flexible sector Architecture

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

- **Erasable**

EN25F32--- Sector, Block or Chip erasable

EN25B32--- Sector or Chip erasable

Note : In the condition of erasing the boot sector of EN25B32 to be replaced with EN25F32, one or multiple sector erase command (20h) must be issued in EN25F32 depending on the sector size. The correlation table is shown below.



Sector Size	Address Range	EN25B32	EN25F32
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 512 byte OTP security sector**
EN25F32---Yes
EN25B32---No

● **Manufacturer and Device Identification**

EN25F32 :

OP Code	(M7-M0)	(ID15-ID0)	(ID7-ID0)
ABh			15h
90h	1Ch		15h
9Fh	1Ch	3116h	

EN25B32 :

Boot Type	OP Code	(M7-M0)	(ID15-ID0)	(ID7-ID0)
EN25B32(Bottom Boot)	ABh			35h
	90h	1Ch		35h
	9Fh	1Ch	2016h	
EN25B32T(Top Boot)	ABh			45h
	90h	1Ch		45h
	9Fh	1Ch	2016h	

● **Protected Area Sizes Sector Organization**

EN25F32 :

Status Register Content			Memory Content			
BP2 Bit	BP1 Bit	BP0 Bit	Protect Blocks	Addresses	Density(KB)	Portion
1	1	1	All	000000h-3FFFFFFh	4096KB	All
1	1	0	RFU	RFU	RFU	RFU
1	0	1				
1	0	0				
0	1	1				
0	1	0				
0	0	1	None	None	None	None
0	0	0				

EN25B32 :

Protected Area Sizes- Bottom Boot Sector Organization

Status Register Content			Memory Content			
BP2 Bit	BP1 Bit	BP0 Bit	Protect Sectors	Addresses	Density(KB)	Portion
1	1	1	All	000000h-3FFFFFFh	4096KB	All
1	1	0	Sector 0 to 35	000000h-1FFFFFFh	2048KB	Lower 1/2
1	0	1	Sector 0 to 4	000000h-00FFFFh	64KB	Lower 1/64
1	0	0	Sector 0 to 3	000000h-007FFFh	32KB	Lower 1/128
0	1	1	Sector 0 to 2	000000h-003FFFh	16KB	Lower 1/256
0	1	0	Sector 0 to 1	000000h-001FFFh	8KB	Lower 1/512
0	0	1	Sector 0	000000h-000FFFh	4KB	Lower 1/1024
0	0	0	None	None	None	None

Protected Area Sizes- Top Boot Sector Organization

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 67	3FF000h-3FFFFFFh	4KB	Upper 1/1024
0	1	0	Sector 66 to 67	3FE000h-3FFFFFFh	8KB	Upper 1/512
0	1	1	Sector 65 to 67	3FC000h-3FFFFFFh	16KB	Upper 1/256
1	0	0	Sector 64 to 67	3F8000h-3FFFFFFh	32KB	Upper 1/128
1	0	1	Sector 63 to 67	3F0000h-3FFFFFFh	64KB	Upper 1/64
1	1	0	Sector 32 to 67	200000h-3FFFFFFh	2048KB	Upper 1/2
1	1	1	All	000000h-3FFFFFFh	4096KB	All

- **Instruction Set Comparison**

A Sector Erase (20h) instruction is implemented in EN25F32 for 4KB sector erase. A Block Erase (D8h) instruction in EN25F32 is compatible with EN25B32 for 64KB block erase and the chip erase instruction is same between two devices.



EN25F32 :

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						

EN25B32 :

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.	2008/12/18