



Migration from EN25B80 to EN25F80

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|----------------------|---------------------------------------|
| Part No. : | EN25F80 |
| Issued date : | 2007 / 08 / 08 |
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1. Purpose

EN25B80 will EOL and be replaced by EN25F80 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**

EN25F80---100MHz clock rate

EN25B80---75MHz clock rate

- **Block Sector Architecture**

EN25F80 : Uniform sector Architecture

- 256 sector of 4KB
- 16 block of 64KB
- Any sector or block can be erased individually

EN25B80 : Flexible sector Architecture

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

- **Erasable**

EN25F80--- Sector, Block or Chip erasable

EN25B80--- Sector or Chip erasable

Note : In the condition of erasing the boot sector of EN25B80 to be replaced with EN25F80, one or multiple sector erase command (20h) must be issued in EN25F80 depending on the sector size. The correlation table is shown below.



| Sector Size | Address Range | EN25B80 | EN25F80 |
|-------------|---------------|--|---|
| 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**
EN25F80---Yes
EN25B80---No

● **Manufacturer and Device Identification**

EN25F80 :

| OP Code | (M7-M0) | (ID15-ID0) | (ID7-ID0) |
|---------|---------|------------|-----------|
| ABh | | | 13h |
| 90h | 1Ch | | 13h |
| 9Fh | 1Ch | 3114h | |

EN25B80 :

| Boot Type | OP Code | (M7-M0) | (ID15-ID0) | (ID7-ID0) |
|----------------------|---------|---------|------------|-----------|
| EN25B80(Bottom Boot) | ABh | | | 33h |
| | 90h | 1Ch | | 33h |
| | 9Fh | 1Ch | 2014h | |
| EN25B80T(Top Boot) | ABh | | | 43h |
| | 90h | 1Ch | | 43h |
| | 9Fh | 1Ch | 2014h | |

● **Protected Area Sizes Sector Organization**

EN25F80 :

| Status Register Content | | | Memory Content | | | |
|-------------------------|---------|---------|----------------|------------------|-------------|------------|
| BP2 Bit | BP1 Bit | BP0 Bit | Protect Blocks | Addresses | Density(KB) | Portion |
| 1 | 1 | 1 | All | 000000h-0FFFFFFh | 1024KB | All |
| 1 | 1 | 0 | All | 000000h-0FFFFFFh | 1024KB | All |
| 1 | 0 | 1 | All | 000000h-0FFFFFFh | 1024KB | All |
| 1 | 0 | 0 | 8 to 15 | 080000h-0FFFFFFh | 512KB | Upper 1/2 |
| 0 | 1 | 1 | 12 to 15 | 0C0000h-0FFFFFFh | 256KB | Upper 1/4 |
| 0 | 1 | 0 | 14 to 15 | 0E0000h-0FFFFFFh | 128KB | Upper 1/8 |
| 0 | 0 | 1 | 15 | 0F0000h-0FFFFFFh | 64KB | Upper 1/16 |
| 0 | 0 | 0 | None | None | None | None |

EN25B80 :

| Status Register Content | | | Memory Content | | | |
|-------------------------|---------|---------|-----------------|------------------|-------------|-------------|
| BP2 Bit | BP1 Bit | BP0 Bit | Protect Sectors | Addresses | Density(KB) | Portion |
| 1 | 1 | 1 | All | 000000h-0FFFFFFh | 1024KB | All |
| 1 | 1 | 0 | Sector 0 to 11 | 000000h-07FFFFh | 512KB | Lower 1/2 |
| 1 | 0 | 1 | Sector 0 to 4 | 000000h-00FFFFh | 64KB | Lower 1/16 |
| 1 | 0 | 0 | Sector 0 to 3 | 000000h-007FFFh | 32KB | Lower 1/32 |
| 0 | 1 | 1 | Sector 0 to 2 | 000000h-003FFFh | 16KB | Lower 1/64 |
| 0 | 1 | 0 | Sector 0 to 1 | 000000h-001FFFh | 8KB | Lower 1/128 |
| 0 | 0 | 1 | Sector 0 | 000000h-000FFFh | 4KB | Lower 1/256 |
| 0 | 0 | 0 | None | None | None | None |

● Instruction Set Comparison

A Sector Erase (20h) instruction is implemented in EN25F80 for 4KB sector erase. A Block Erase (D8h) instruction in EN25F80 is compatible with EN25B80 for 64KB block erase and the chip erase instruction is same between two devices.

EN25F80 :

| 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 | | | | | | |

EN25B80 :

| 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. | 2007/08/08 |