Application Note

Eon Flash EN39SL800

vs

SST Flash SST39WF800B

1. INTRODUCTION

The application note introduces how to implement a system design from SST SST39WF800B Flash to Eon EN39SL800 Flash.

2. GENERAL FUNCTION COMPARISON TABLE:

The following table is major features of these two devices.

Features	EN39SL800	SST39WF800B
voltage range	1.65 ~ 1.95	1.65 ~ 1.95
Pin to Pin	48-ball 6mm x 8mm TFBGA 48-ball 4mm x 6 mm WFBGA	48-ball 6mm x 8mm TFBGA 48-ball 4mm x 6 mm WFBGA
Access time	70ns	70ns
Sector Architecture	256 sectors of 2K word 16 blocks of 32-Kword	256 sectors of 2K word 16 blocks of 32-Kword
Byte/Word mode	48-ball TFBGA and WFBGA only support Word Mode	only support Word Mode
VID and VHH Max	9.0V – 11.0V	None
Autoselect Command	Yes	None
CFI Compliant	Yes	Yes
Erase Suspend/Resume	Yes	None
Minimum endurance cycle	100K	100K
Package	48-pin TSOP (Type 1) 48-ball 6mm x 8mm TFBGA 48-ball 4mm x 6 mm WFBGA	48-ball 6mm x 8mm TFBGA 48-ball 4mm x 6 mm WFBGA 48-ball 5mm x 6 mm XFLGA

3. HARDWARE CONSIDERATIONS

3.1 I_{CC} comparison

Current	EN39SL800		SST39WF800B		Unit
	Typ	Max	Typ	Max	
Read I_{CC1}	5	10	-	15	mA
Write I_{CC4}	15	25	-	20	mA
Standby I_{CC2}	0.2	5.0	-	40	µA

3.2 48-ball package comparison

For the Eon EN39SL800, the 48-ball (6mm x 8mm) TFBGA and (4mm x 6mm) WFBGA package (including ball-out) are the same as SST SST39WF800B.

Part No.	EN39SL800-70NIP EN39SL800-70BIP	SST39WF800B-704I(C)YIKE SST39WF800B-704I(C)B3KE
Pin to Pin compatible	Yes	Yes

The customer can replace SST39WF800B with EN39SL800 on PCB for system design directly.

4. SOFTWARE CONSIDERATIONS

4.1 Manufacturer and Device Identification comparison

For EN39SL800 autoselect mode table

Description		CE#	OE#	WE#	A18 to A12	A11 to A10	A9[2]	A8	A7	A6	A5 to A2	A1	A0	DQ8 to DQ15	DQ7 to DQ0
Manufacturer ID: Eon		L	L	H	X	X	V_{ID}	H[1]	X	L	X	L	L	X	1Ch
								L							7Fh
Device ID	Word	L	L	H	X	X	V_{ID}	X	X	L	X	L	H	27h	3Fh
	Byte	L	L	H										X	3Fh
Block Protection Verification		L	L	H	SA	X	V_{ID}	X	X	L	X	H	L	X	01h (Protected)
														X	00h (Unprotected)

Note:

1. If a manufacturing ID is read with A8=L, the chip will output a configuration code 7Fh. A further Manufacturing ID must be read with A8=H.
2. A9 = VID is for HV A9 Autoselect mode only. A9 must be ≤ Vcc (CMOS logic level) for Command Autoselect Mode.

For SST39WF800B Manufacturer ID and Device ID

- **Manufacturer ID : 00BFH**
- **Device ID : 273EH**

	Address	Data
Manufacturer's ID	0000H	00BFH
Device ID SST39WF800B	0001H	273EH

The Manufacturer and Device ID are different between EN39SL800 and SST39WF800B.

4.2. Address input for command cycles:

EN39SL800 :

use address input 555H and 2AAH for command cycles.

Address bits A_{10}- A_0 are input for 555H and 2AAH, address bits A_{17}- A_{11} are don't cares.

SST39WF800B :

use address input 5555H and 2AAAH for command cycles.

Address bits A_{14}- A_0 are input for 5555H and 2AAAH, address bits A_{17}- A_{15} are don't cares.

The address input in the command sequence for the SST39WF800B can also be used for the EN39SL800 without any change.

Revisions List

Revision No	Description	Date
A	Initial Release	2009/07/08