



# **Application Note**

## **Eon Flash EN29LV640B(T) VS SST Flash SST39VF6401(2)B**



## 1. INTRODUCTION

The application note introduces how to implement a system design from SST SST39VF6401(2)B Flash to Eon EN29LV640B(T) Flash.

## 2. GENERAL FUNCTION COMPARISON TABLE:

The following table highlights the major features of these two devices.

Features	EN29LV640B(T)	SST39VF6401(2)B
voltage range	2.7 ~ 3.6	2.7 ~ 3.6
Pin to Pin	Pin 14 = WP#/ACC, Pin 15 = RY/BY#, Pin 45 = DQ15/A-1	Pin 14 = WP#, Pin 15 = NC, Pin 45 = DQ15
Access time	70ns @ (3.0V~3.6V) 90ns	70ns 90ns
Sector Architecture	8 x 8K Byte boot sectors + 127 x 64K Byte sector	Uniform 2 KWord sectors Uniform 32 KWord blocks
Byte/Word mode	Yes	Only support Word mode
VID and VHH Max	10.5V – 11.5V	No
Autoselect Command	Yes	No
WP#/ACC	Yes	only support WP#
RY/BY#	Yes	No
CFI Compliant	Yes	Yes
JEDEC Data# polling & toggle bit command	Yes	Yes
Erase Suspend / Resume	Yes	Yes
Query Sec ID	No	Yes
User Security ID Word-Program	No	Yes
User Security ID Program Lock-Out	No	Yes
Software ID Entry	No	Yes
Software ID Exit	No	Yes
Minimum endurance cycle	100K	100K
Package	48-pin 12mm x 20mm TSOP	48-pin 12mm x 20mm TSOP



## 3. HARDWARE & PERFORMANCE CONSIDERATIONS

### 3.1 I<sub>CC</sub> comparison

Current	EN29LV640B(T)		SST39VF6401(2)B		Unit
	Typ	Max	Typ	Max	
Read I <sub>CC1</sub> (@ 5 MHz)	9	16	-	18	mA
Write I <sub>CC2</sub>	20	30	-	35	mA
Standby I <sub>CC3</sub>	1	5	-	20	μA

### 3.2 Boot Sector Architecture comparison

Boot Sector	Eon	SST
Bottom boot	EN29LV640B	SST39VF6401B
Top boot	EN29LV640T	SST39VF6402B

### 3.3 48-pin TSOP (Type 1) package comparison

Part No.	EN29LV640B(T)-90TIP	SST39VF6401(02)-70(90)-4I(C)-EKE
Pin 14	WP#/ACC	WP#
Pin 15	RY/BY#	NC
Pin 45	DQ15/A-1	DQ15

### 3.4 Ready/Busy# pin (RY/BY#):

Provides a hardware method of detecting program or erase cycle completion

EN29LV640B(T): Yes

SST39VF6401(2)B: No

### 3.5 Max V<sub>ID</sub> comparison

EN29LV640B(T) : V<sub>ID</sub> range is 10.5V ~ 11.5V.

SST39VF6401(2)B : doesn't support V<sub>ID</sub> function.

Any voltage level higher than chip spec would damage the device, possibly.



### 3.6 Temporary sector unprotect:

This mode allows users to use specific programmer equipment to do programming function.

EN29LV640B(T) : Yes

SST39VF6401(2)B: No

### 3.7 Different VLKO range (for write inhibit condition)

EN29LV640B(T) : 2.3V ~ 2.5V

SST39VF6401(2)B: <1.5V

## 4. SOFTWARE CONSIDERATIONS

### 4.1 Manufacturer ID, Device Identifications comparison

Eon		SST	
Manufacture ID: 007Fh (A8 = "0"), 001Ch (A8 = "1").		Manufacture ID: 00BFh	
Part No.	Device ID	Part No.	Device ID
EN29LV640B (Bottom boot)	22CBh	SST39VF6401B (Bottom boot)	236Dh
EN29LV640T (Top boot)	22C9h	SST39VF6402B (Top boot)	236Ch

### 4.2 Flexible Sector Architecture:

EN29LV640B(T):

- Eight 8-Kbyte sectors, One hundred and twenty-seven 32K-Word / 64K-byte sectors.
- 8-Kbyte sectors for Top or Bottom boot.

SST39VF6401(2):

- Uniform 4K KWord sectors.
- Uniform 32 KWord blocks

The sector (block) size of SST parts is different from Eon parts.

Software can be configured to fit both.



# Eon Silicon Solution Inc.

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## Revisions List

Revision No	Description	Date
A	Initial Release	2009/09/09