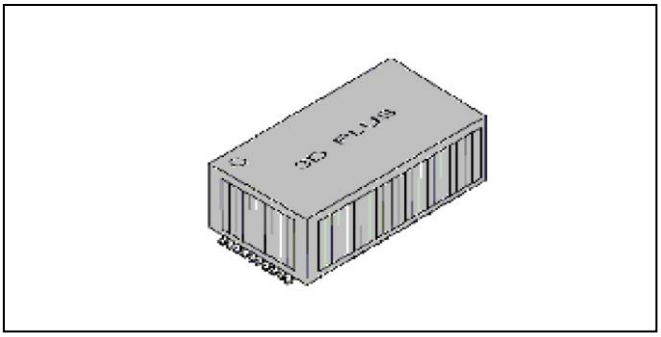
Flash Memory MODULE

3DFN64G08VS8695

64Gbit NAND FLASH organized as 8Gx8, based on 1Gx8



Features

- Organization
  - -Memory Cell Array (1G+56M)bitx 8bit x 8
- Automatic Program and Erase
  - Page Program: (4K+224) Bytes/Bank
  - Block Erase: (512K+28K) Bytes/Bank
- Single [+2.7;+3.6] V power supply operation.
- PAGE READ performance
  - Random READ: 25µs (Max.)
  - Serial Access: 25ns (Min.)
- Fast WRITE Cycle Time
  - Page Program Time: 230µs (Typ.)
  - Block Erase Time: 700µs (Typ.)
- Command/Address/Data Multiplexed I/O Port
- Hardware Data Protection
  - Program/Erase Lockout During Power Transitions
- Reliable CMOS Floating-Gate Technology
  - Endurance: 100k Program/Erase Cycles with ECC
  - Data Retention: 10 Years
- Command Driven Operation
- Intelligent Copy-Back Operation

General Description

The 3DFN64G08VS8695 is a high-density non-volatile CMOS NAND FLASH module organized as 8 x 1Gx 8bit.

Using high performance and high-reliability CMOS technology chips and stacking with the well-known 3D PLUS MCM-V technology, this FLASH memory module provides a solution for low power and high-capacity non-volatile memory data storage needs.

Each device of the module is an 8Gbit NAND FLASH, organized as 1Gx8bit, and can be accessed by activating the associated control signals (#CEn, #WEn, #REn). A program operation programs the (4K+224)byte x 8 page in typical 230µs and an erase operation can be performed in typical 700µs on a (512K+28K)-byte block. Data in the data page can be read out at 25ns cycle time per byte. The I/O pins serve as the ports for address and data input/output as well as command input. The on-chip write controller automates all program and erase functions including pulse repetition, where required, and internal verification and margining of data. Even the write-intensive system can take advantage of the 3DFN64G08VS8695 extended reliability of 100k program/erase cycles.

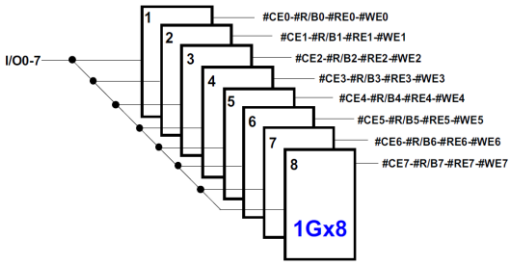
The 3DFN64G08VS8695 module is package in a SOP 50.

Pin Assignment (Top View)

SOP 50 (Pitch : 0.50 mm)

1	#RB7	26	#WE6
2	#RB6	27	#WE7
3	#RB5	28	#CE6
4	#RB4	29	#CE7
5	#RB3	30	I/O0
6	#RB2	31	I/O1
7	#RB1	32	I/O2
8	#RB0	33	I/O3
9	#RE0	34	#CE5
10	#CE0	35	VSS
11	#CE1	36	VSS
12	#CE2	37	VSS
13	VCC	38	VCC
14	VSS	39	VCC
15	#CE3	40	#RE1
16	#CE4	41	#RE2
17	CLE	42	I/O4
18	ALE	43	I/O5
19	#WE0	44	I/O6
20	#WP	45	I/O7
21	#WE1	46	#RE3
22	#WE2	47	#RE4
23	#WE3	48	#RE5
24	#WE4	49	#RE6
25	#WE5	50	#RE7

FUNCTIONAL BLOCK DIAGRAM



(All other signals are common to the eight memories)

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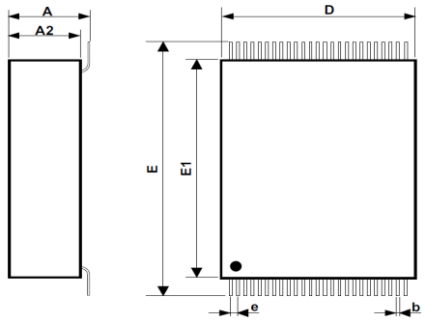
Mechanical Drawing



	Min	Max
A	11.50	12.20
A2	10.40	10.80
D	13.44	13.84
E	20.00	20.40
E1	18.90	19.10
b	0.20	
e	0.50	
Dimension (mm)		

Max. weight: 6.50 g

DC operating conditions and characteristics

Parameter	Symbol	Min	Max	Unit
Supply Voltage	V_{CC}	2.7	3.6	V
Input logic High Voltage	V_{IH}	0.8x V_{CC}	V_{CC} +0.3	V
Input logic Low Voltage	V_{IL}	-0.3	0.2x V_{CC}	V
Output logic High Voltage	V_{OH}	2.4	-	V
Output logic Low Voltage	V_{OL}	-	0.4	V

Absolute maximum ratings

Parameter	Symbol	Value	Unit
Supply voltage relative to V_{SS}	V_{CC}	-0.6 to +4.6	V
Voltage Input relative to V_{SS}	V_{IN}	-0.6 to +4.6	V
Storage temperature	T_{STG}	-65 to +150	°C

DC Characteristics

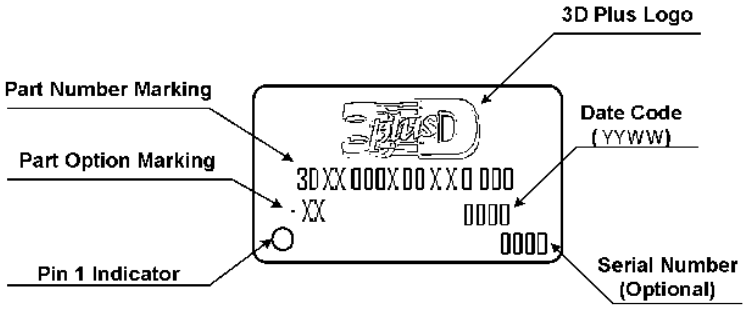
Parameter	Symbol	Value	Unit
Operating Current (one bank active)	I_{CC1}	51	mA
CMOS Standby Current	I_{SB}	400	µA

3DFN64G08VS8695 T Q

Temperature Range
C = 0°C ~ +70°C
I = -40°C ~ +85°C
M = -55°C ~ +125°C
S = Specific

Quality Level
N = Commercial Grade
B = Industrial Grade
S = Space Grade
C = Custom

Module Marking



Main Sales Office

FRANCE	3D PLUS 408, rue Hélène Boucher ZI. 78532 BUC Cedex	Tel : 33 (0)1 30 83 26 50	Fax : 33 (0)1 39 56 25 89	Web : www.3d-plus.com e-mail : sales@3d-plus.com	**DISTRIBUTOR**
USA	3D PLUS USA, Inc 910 Auburn Court Fremont, CA 94538	Tel : (510) 824-5591	Fax : (510) 824-5591	e-mail : sales@3d-plus.com	