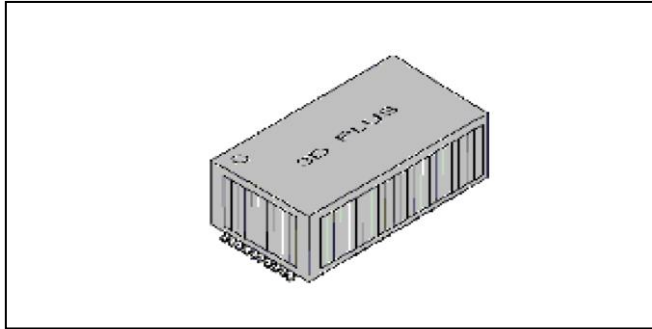


Flash Memory MODULE

16Gbit Flash Nand organized as 2Gx8, based on 2Gx8



Features

- Organization
 - Memory Cell Array 2Gx8bitx1
- Automatic Program and Erase
 - Page: (4K+224) Byte/Bank
 - Block: (512K+28K) Byte/Bank
- Single +3.3 ± 0.3V power supply operation.
- Page Read Operation
 - Random READ: 25µs (Max.)
 - Sequential READ: 25ns (Min.)
- Fast write Cycle Time
 - Program page: 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
 - Data Retention: 10 Years
- Command Register Operation
- Intelligent Copy-Back Operation

General Description

The 3DFN16G08VS1712 is a high-density non-volatile CMOS NAND FLASH module organized as 1x2Gx8bit.

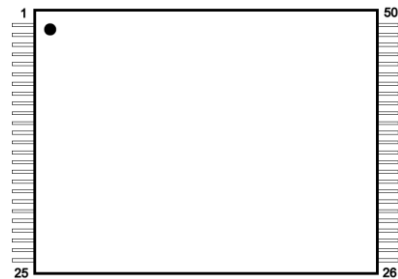
Using high performance and high-reliability CMOS technology chips, stacking with the well-known 3D Plus MCM-V technology, this FLASH memory module provides a cost-effective solution for low power and high-capacity non-volatile memory data storage needs, such as voice recording and image file memory for still camera.

Each module can be accessed by activating the associated control signal (#CE, #WE, #RE). A program operation programs the page in typical 230µs and an erase operation can be performed in typical 700µs on a 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 3DFN16G08VS1712 extended reliability of 100K program/erase cycles.

The 3DFN16G08VS1712 module is packaged in a SOP 50 and is available for Commercial, Industrial and Military range temperature.

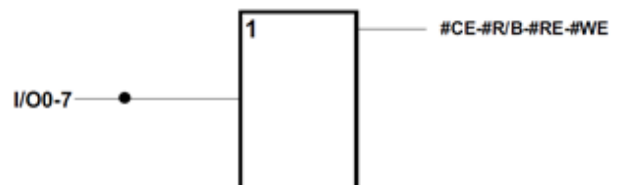
Pin Assignment (Top View)

SOP 50 (Pitch : 0.50 mm)



1	NC	26	NC
2	NC	27	NC
3	NC	28	NC
4	NC	29	NC
5	NC	30	I/O0
6	NC	31	I/O1
7	NC	32	I/O2
8	#RB	33	I/O3
9	#RE	34	NC
10	#CE	35	VSS
11	NC	36	VSS
12	NC	37	VSS
13	VCC	38	VCC
14	VSS	39	VCC
15	NC	40	NC
16	NC	41	NC
17	CLE	42	I/O4
18	ALE	43	I/O5
19	#WE	44	I/O6
20	#WP	45	I/O7
21	NC	46	NC
22	NC	47	NC
23	NC	48	NC
24	NC	49	NC
25	NC	50	NC

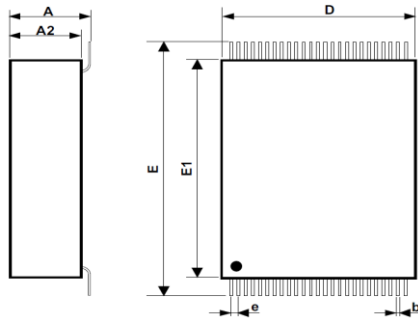
FUNCTIONAL BLOCK DIAGRAM



Flash Memory MODULE

16Gbit Flash Nand organized as 2Gx8, based on 2Gx8

Mechanical Drawing



	Min	Max
A	3.40	4.10
A2	2.30	2.70
D	13.44	13.84
E	20.00	20.40
E1	18.60	18.80
b	0.20	
e	0.50	

Dimension (mm)

Max. weight : 1.50 gr.

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}	$0.8 \times V_{CC}$	$V_{CC} + 0.3$	V
Input logic Low Voltage	V_{IL}	-0.3	$0.2 \times V_{CC}$	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	V_{CC}	-0.6 to +4.6	V
Voltage on any pin 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
Typical Operating Current	I_{CC1}	50	mA
Standby Current	I_{SB1}	50	µA

3DFN16G08VS1712

X X

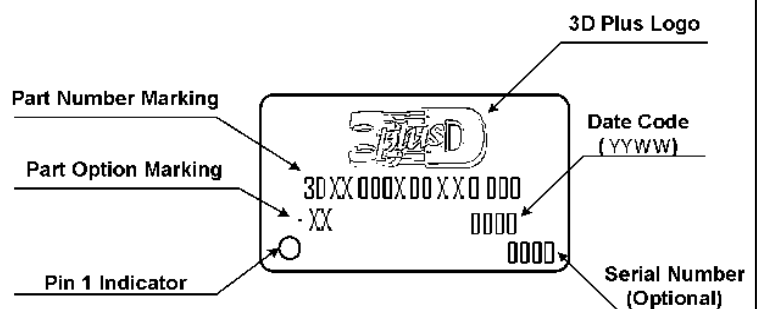
Temperature Range

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

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