MEMORY MODULE

FLASH NAND

3DFN32G08VS4704

32 Gbit: 8-bit bus width, NAND Flash based on 1G x 8

3DFN32G08VS4704

GENERAL DESCRIPTION

The 3DFN32G08VS4704 is a high-density non-volatile NAND Flash memory is organized as 4G x 8. Each device of the module is a 8 Gbit NAND organized as 1G x 8 bits, and can be accessed by activating the associated control signals: #CE*n*, #WE*n*, #RE*n*, #RB*n* (*n*= 0 to 3).

Using high performance and high reliability CMOS technology combined with 3D PLUS patented stacking technology, this FLASH memory module provides an area efficient solution for high capacity data storage needs.

The module packaged in a SOP 50 is available for Commercial, Industrial or Military temperature range. It is also available with screening options up to space grade level.

KEY FEATURES

ONFI 2.1 compliant

Memory Cell Array 4 x (1G x 8 bits)

Automatic Program and Erase

- Page size x 8 bit Program: (4K+224) Byte/Bank
- Block Size: (512K+28K) Byte/Bank

Single voltage operation: 3.3 V

Page Read performance

- Random READ: 25 µs (Max)
- Serial Access: 25 ns (Min)

Fast Write cycle time

- Page Program Time: 230 µs (Typ)
- Block Erase Time: 700 µs (Typ)

Command/Address/Data Multiplexed I/O Port

Hardware Data Protection

- Program/Erase Lockout during Power Transitions

Endurance: 100k Program/Erase Cycles with ECC

Data Retention: 10 Years

Command Driven Operation

Intelligent Copy-Back Operation

Available with screening options up to grade S

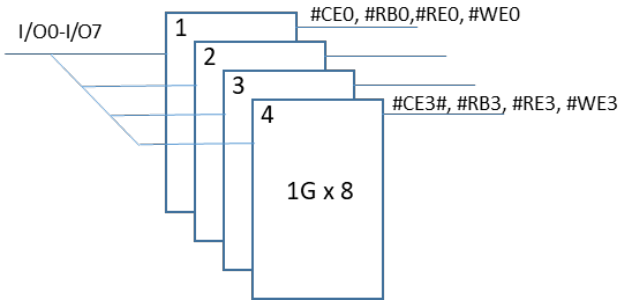
ITAR free

PIN ASSIGNMENT (top view)

SOP 50 - Pitch 0.50 mm

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

FUNCTIONAL BLOCK DIAGRAM



All other signals are common to all four memories

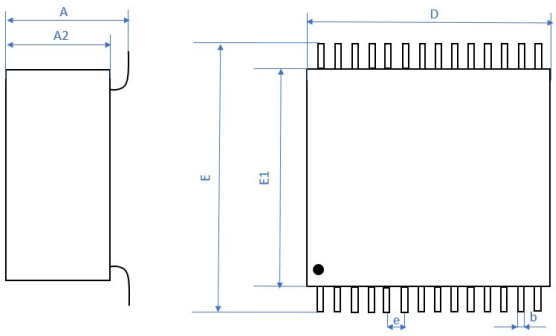
MEMORY MODULE

FLASH NAND

3DFN32G08VS4704

32 Gbit: 8-bit bus width, NAND Flash based on 1G x 8

MECHANICAL DRAWING



Dimensions (mm)

	Min	Max
A	7.10	7.80
A2	6.00	6.40
D	13.44	13.84
E	20.00	20.40
E1	18.90	19.10
b	0.20	
e	0.50	

Max. weight: 4.00 g

DC Operating Conditions and Characteristics

Parameter	Symbol	Min	Max	Unit
Supply Voltage core	V_{CC}	2.70	3.60	V
Input logic High Voltage	V_{IH}	0.80 x V_{CC}	V_{CC} + 0.30	V
Input logic Low Voltage	V_{IL}	-0.30	0.20 x V_{CC}	V

Absolute Maximum Ratings

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

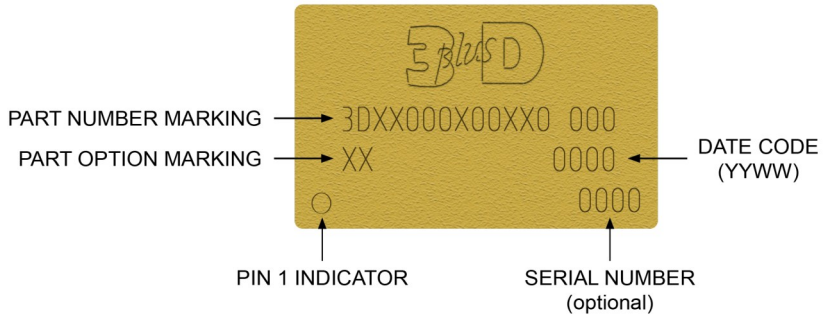
DC Characteristics

Parameter	Symbol	Value	Unit
Operating Current (one bank active)	I_{CC}	51	mA
Typical Standby Current (V_{CC})	I_{SB}	280	µA

Note: Permanent device damage may occur if "Absolute maximum ratings" are exceeded. Functional operation should be restricted to recommended operating condition.

Exposure to higher than recommended voltage for extended periods of time could affect device reliability.

MODULE MARKING



3DFN32G08VS4704 **X** **X**

Temperature Range

C = (0°C to +70°C)
I = (-40°C to +85°C)
M = (-55°C to +125°C)
S = Specific

Quality Level

N = Commercial Grade
B = Industrial Grade
S = Space Grade

3D PLUS SALES OFFICES

HEADQUARTERS (FRANCE)	TECHNICAL CENTER (USA)	DISTRIBUTOR
408, rue Hélène Boucher - ZI 78530 Buc Tel: +33 (0)1 30 83 26 50 E-mail: sales@3d-plus.com www.3d-plus.com	151 Callan Avenue - Suite #310 San Leandro, CA 94577 Tel: (510) 824-5591 E-mail: sales@3d-plus.com	