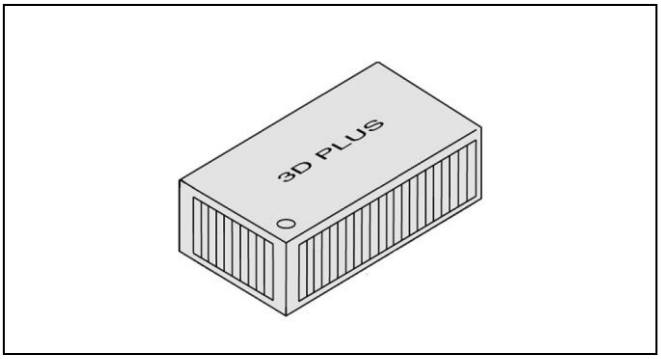
Synchronous Dynamic Ram MODULE

3DSD2G64VB4488

2Gbit SDRAM organized as 32Mx64, based on 32Mx16



Features

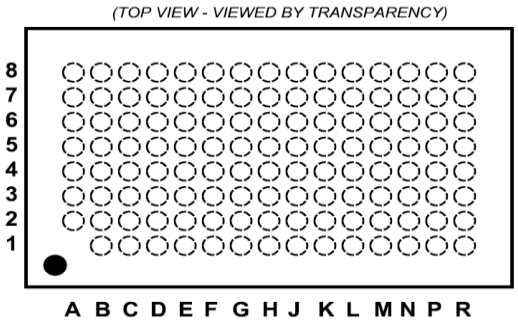
- Stack of four 512Mbit SDRam.
- Organized as 32Mx64bit.
- Single +3.3V power supply.
- Fully synchronous; all signals registered on positive edge of system clock.
- Internal pipelined operation; column address can be changed every clock cycle.
- Programmable burst lengths; 1,2,4,8 or full page.
- Auto Precharge, includes Concurrent Auto Precharge, and Auto Refresh Modes.
- Auto Refresh Modes.
- LVTTL-compatible inputs and outputs.
- Available Temperature Range:
  0°C to +70°C
  -40°C to +85°C
- Available with screening option for high reliability application (Space, etc…)

General Description

The 3D SD2G64VB4488 is a high-speed highly integrated Synchronous Dynamic Random Access Memory containing 2.147.483.648 bits.
It is organized with 6 banks of 512Mbit.
Each bank has a 16-bit interface and is selected with specific #CS, CLK and CKE.
All other signals are common to the four 512Mbit SDRAM memories.
It is particularly well suited for use in high reliability, high performance and high density system applications, such as solid state mass recorder, server or workstation.
The 3D SD2G64VB4488 is packaged in a 119 ball BGA.

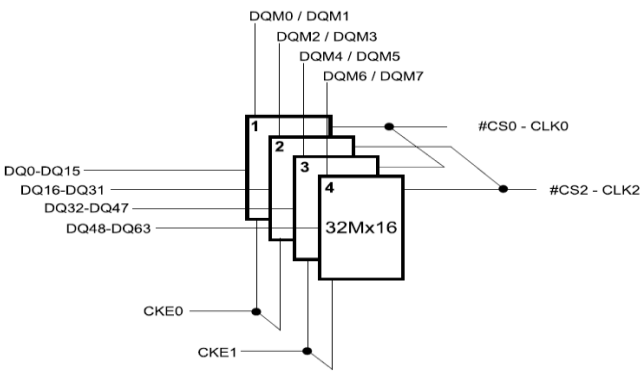
Pin Assignment (Top View)

BGA 119 (8x15 - Pitch : 1.27mm)



	1	2	3	4	5	6	7	8
A	-	DQ33	DQ49	VCC	VSS	DQ62	DQ46	VSS
B	DQ00	DQ48	DQ34	DQ35	DQ44	DQ45	DQ63	DQ31
C	DQ01	DQ32	DQ50	DQ51	DQ60	DQ61	DQ47	DQ14
D	DQ18	DQ02	DQ17	DQ16	DQ15	VSS	DQ30	DQ13
E	DQ19	DQ03	VSS	DQ04	DQ29	VCC	DQ28	DQ12
F	VCC	DQ20	DQ05	DQ21	DQ11	DQ10	VSS	DQ27
G	DQ06	DQ22	VSS	DQM1	VCC	DQ25	DQ09	DQ26
H	DQ07	DQ23	VCC	DQM3	DQ08	VSS	DQM0	DQM2
J	#CAS	#WE	DQM7	DQM5	DQ24	DQM4	DQM6	CLK0
K	NC	#CS0	#RAS	#CS2	NC	CLK2	CKE0	NC
L	BA0	NC	BA1	A10	CKE1	A9	A11	A12
M	A0	A1	A3	DQ39	A4	A6	A7	A8
N	A2	VCC	DQ53	DQ52	DQ59	DQ58	DQ40	A5
P	VCC	DQ55	DQ37	DQ36	DQ43	DQ42	DQ56	VSS
R	VCC	DQ38	DQ54	VCC	VSS	DQ57	DQ41	VSS

FUNCTIONAL BLOCK DIAGRAM



(All other signals are common to the four memories)

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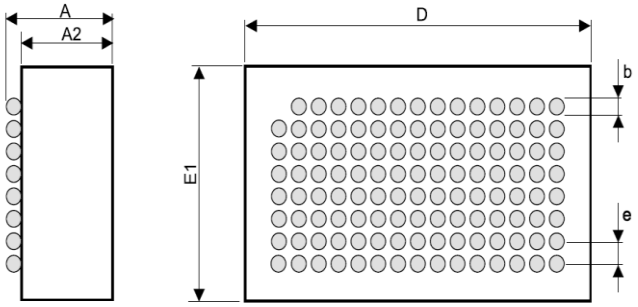
Mechanical Drawing



	Min	Max
A	8.30	8.90
A2	7.50	8.10
D	25.80	26.20
E1	15.80	16.20
b	0.76	
e	1.27	
Dimension (mm)		

Max. weight : 6.10 gr.

Test Tools

3DSD2G64VB4488	ENPLAS OTB-400-1.27-33 Modified by 3D PLUS

DC operating conditions and characteristics

Parameter	Symbol	Min	Max	Unit
Supply Voltage	V_{CC}	3.0	3.6	V
Input Logic High Voltage	V_{IH}	2.0	V_{DD} +0.3	V
Input Logic Low Voltage	V_{IL}	-0.3	0.8	
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
Voltage on any pin relative to V_{SS}	V_{IN}, V_{OUT}	-0.5 to V_{CC} +0.5	V
Storage temperature	T_{STG}	-55 to +150	°C
Power dissipation	P_D	2	W
Short circuit current	L_{OS}	50	mA

DC Characteristics @ 20MHz

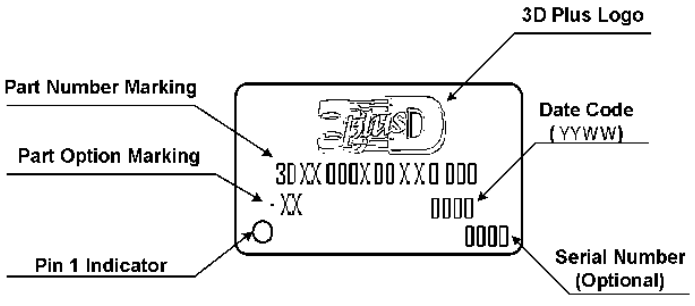
Parameter	Symbol	Value	Unit
Operating Current	I_{CC1}	560	mA
Precharge standby current in power-down mode	$I_{CC2}P$	16	mA
	$I_{CC2}PS$	16	mA

3D SD2G64VB4488 X X

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

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

Module Marking



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