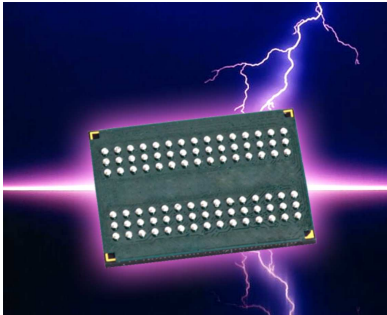


DDR3 Synchronous Dynamic Ram MODULE

3D3D4G16WB2332

4Gbit DDR3 SDRam organized as 256Mx16, based on 128Mx16



Target application

- Embedded Systems
- Workstations
- Server
- Super computers
- Test systems

Features and Benefits

- JEDEC-standard 96 balls
- Vdd=VddQ = +1.5V +/-0.075V
- Differential bidirectional data strobe
- 8n-bit prefetch architecture
- 8 internal banks per memory
- Nominal and dynamic on-die termination
- Programmable CAS latency
- Posted CAS additive latency
- Fixed burst lengths of 8 and burst chp (BC) of 4
- Selectable BC4 or BL8 on-the-fly
- Self refresh mode
- Write leveling
- Multipurpose register
- Output driver calibration
- Clock rate available : 533Mhz and 667Mhz
- Commercial, Industrial and Military temperature range.

General description

3D Plus offers a new 4Gbit DDR3 SDRAM cube with a compatible JEDEC standard package.

This cube embeds 2 chips with a capacity of 2Gb (128Mbx16) each. They can be addressed with separates CS, CKE, ODT and ZQ. Our products are available at 533 and 667Mhz clock speed which is equivalent to 1066 and 1333 Mbps in Commercial, Industrial and Military temperature range.

Thanks to the **high density patented technology** and the **cold manufacturing process** the memories are embedded in a small form factor cube without compromising electrical or thermal performance.

This device is ideal for high density memory applications that require high speed transfer and compatibility with standards servers and networking equipment.

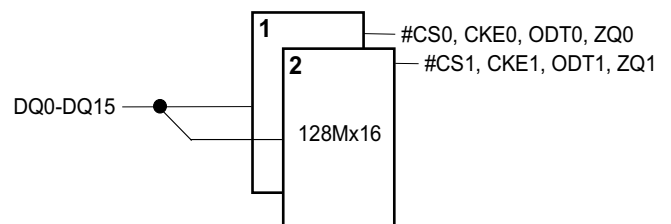
Pin Assignment

FBGA 96 (Pitch 0.80mm)

Top View
(Viewed by Transparency)



FUNCTIONAL BLOCK DIAGRAM



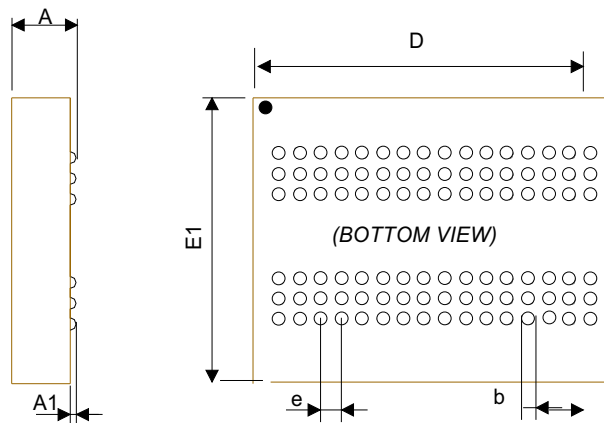
(All other signals are common to the two memories)

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Mechanical Drawing



	Min	Max
A	3.20	3.40
A1	0.17	0.20
D	14.60	14.80
E1	9.60	9.80
b	0.40	
e	0.80	
Dimensions (mm)		
Max. weight : 1.00 gr.		

DC Operating conditions and characteristics

Parameter	Symbol	Min	Max	Unit
Supply Voltage relative to Vss	V _{DD}	1.425	1.575	V
I/O Supply Voltage relative to Vss	V _{DDQ}	1.425	1.575	V
Input Leakage Current	I _i	-4	4	μA
Vref Supply Leakage Current	I _{vref}	-2	2	μA
Input ref. voltage com/ad bus	V _{REFCA}	0.49xV _{DD}	0.51xV _{DD}	V
I/O Reference Voltage DQ bus	V _{REFDQ}	0.49xV _{DD}	0.51xV _{DD}	V
I/O Ref. Volt. DQ bus in self refresh	V _{REFDQ}	V _{ss}	V _{DD}	V

Absolute maximum ratings

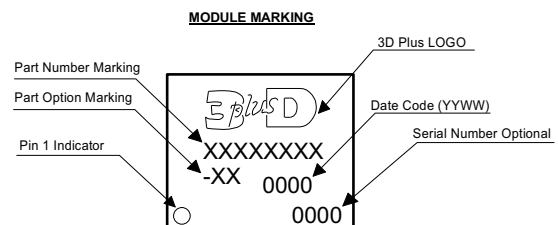
Parameter	Symbol	Value	Unit
Voltage on any ball relative to VSS	V _{IN} , V _{OUT}	-0.4 ~ +1.975	V
Storage temperature	T _{STG}	-55 ~ +150	°C

DC Characteristics

Parameter	Symbol	Value	Unit
Operating current (One bank active)	I _{DD1}	110	mA
Precharge power down current	I _{DD2P0}	20	mA
Self refresh current	I _{DD6}	18	mA

3D3D4G16WB2332 - X

Temperature Range
C = (0°C to + 95°C)
I = (-40°C to + 95°C)
M = (-55°C to + 125°C)



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DDR3 Memory Module

PRELIMINARY

3D PLUS S.A. reserves the right to change or cancel products or specifications without notice
 3DFP-0332-REV : 2 - September 2010