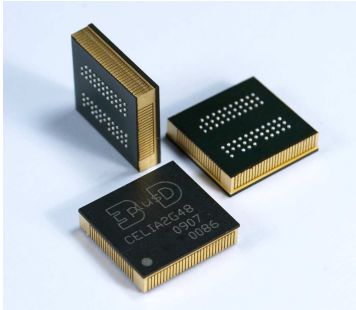


DDR2 Synchronous Dynamic Ram MODULE

3D2D4G16UB2343

4Gbit DDR2 SDRam organized as 256Mx16, based on 256Mx8



Target application

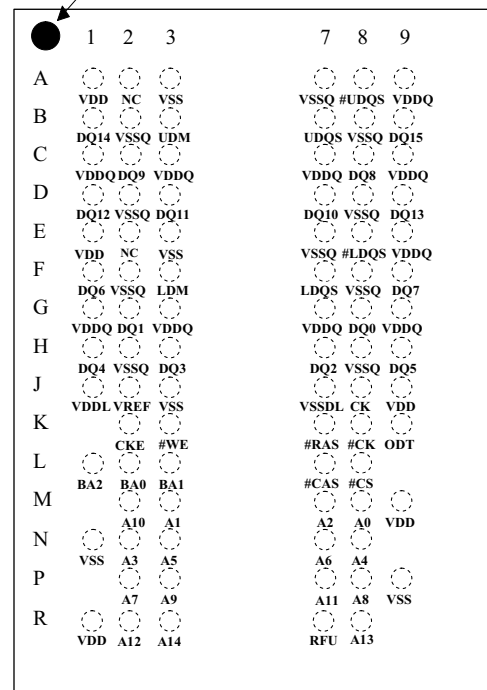
- Embedded Systems
- Workstations
- Server
- Super computers
- Test systems

Pin Assignment

FBGA 84 (Pitch 0.80mm)

Top View
(Viewed by Transparency)

Pin Indicator



Features and Benefits

- JEDEC-standard 84 balls
- Vdd=VddQ = +1.8V +/-0.1V
- 4n-bit prefetch architecture
- DLL to align DQ and DQS transition with CK
- 8 internal banks per memory
- Programmable CAS latency
- Posted CAS additive latency
- Write Latency(WL) = Read Latency(RL) -1 t_{ck}
- Programmable burst lengths: 4 or 8
- Adjustable data-output drive strength
- Differential data-strobe
- 64ms, 8,192-cycle refresh
- On-Die Termination (ODT)
- Data rate available : 400Mbps (CL3), 533Mbps (CL4) and 667Mbps (CL5)
- Commercial, Industrial or Military temperature range.

General description

3D Plus offers a new 4Gbit DDR2 SDRAM cube with a **compatible JEDEC standard package**.

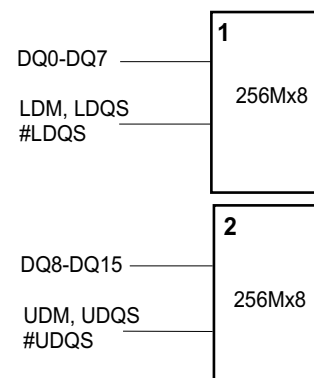
This cube embeds 2 chips with a capacity of 2Gb (256Mbx8) each. Thanks to its **unique x16 bits data bus**, this module allows savings 50% PWB area against any other solution.

Our products are available at 200, 267 and 333 clock speed which is equivalent to 400, 533 and 667 Mbps in Commercial (0°C / 70°C), Industrial (-40°C / +85°C) or Military (-55°C/+125°C) 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.

FUNCTIONAL BLOCK DIAGRAM



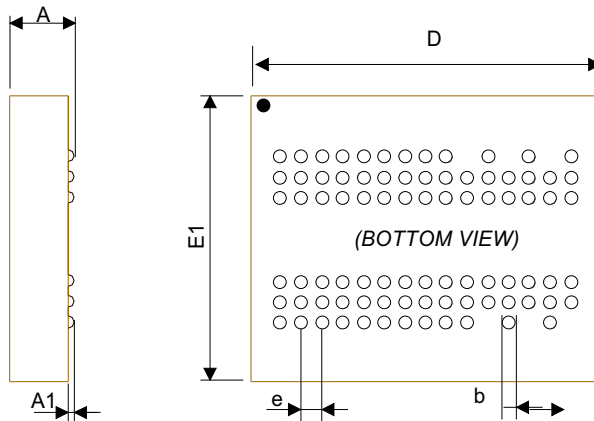
(All other signals are common to the two memories)

DDR2 Synchronous Dynamic Ram MODULE

3D2D4G16UB2343

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Mechanical Drawing



	Min	Max
A	3.20	3.40
A1	0.17	0.20
D	14.60	14.80
E1	12.10	12.30
b	0.40	
e	0.80	
Dimensions (mm)		
Max. weight : 1.50 gr.		

DC Operating conditions and characteristics

Parameter	Symbol	Min	Max	Unit
Supply Voltage relative to VSS	V _{DD}	1.7	1.9	V
Supply voltage relative to VSSQ	V _{DDQ}	1.7	1.9	V
Supply voltage relative to VSSL	V _{DDL}	1.7	1.9	V
I/O Reference Voltage	V _{REF}	0.49xV _{DDQ}	0.51xV _{DDQ}	V
I/O Termination Voltage (syst.)	V _{TT}	V _{REF} -0.04	V _{REF} +0.04	V
Input High (Logic1) Voltage	V _{IH} (DC)	V _{REF} +0.125	V _{DDQ} +0.3	V
Input Low (Logic0) Voltage	V _{IL} (DC)	-0.3	V _{REF} -0.125	V

Absolute maximum ratings

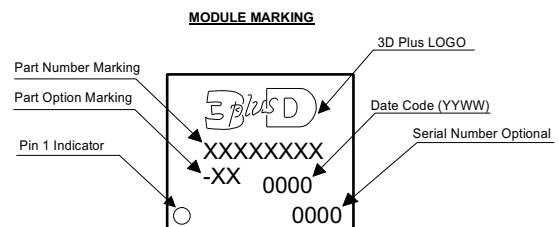
Parameter	Symbol	Value	Unit
Voltage on any ball relative to VSS	V _{IN} , V _{OUT}	-0.5 ~ +2.3	V
Storage temperature	T _{STG}	-55 ~ +150	°C

DC Characteristics (Max):

Parameter	Symbol	Value	Unit
Operating current (One bank active)	I _{DD1}	170	mA
Precharge power down current	I _{DD2P}	25	mA
Self refresh current	I _{DD6}	25	mA

3D2D4G16UB2343 X

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



MAIN SALES OFFICE

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USA	3D PLUS USA, Inc 6633 Eldorado Parkway Suite 420 Mckinney, TX 75070	(214) 733-8505	(214) 733-8506	e-mail : sales@3d-plus.com	

DDR2 Memory Module

MONOLITHE

3D PLUS S.A. reserves the right to change or cancel products or specifications without notice
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