DDR2 Synchronous Dynamic Ram MODULE

3D2D8G08UB2322

8Gbit DDR2 SDRam organized as 1Gx8, based on 256Mx8

Target application

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

Features and Benefits

- JEDEC-standard 65 balls
- **Highest Memory Density**
- 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 and Military temperature range.

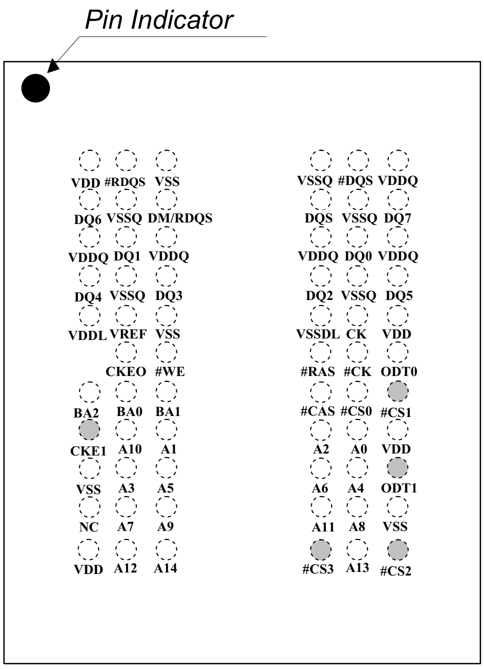
General description

3D Plus offers a new **8Gbit DDR2 SDRAM** cube with a **compatible JEDEC standard package**. This is the highest memory density. It enables **50% board area savings** against any other solution.
This cube embeds 4 chips with a capacity of 2Gb (256Mbx8) each. They can be addressed with separates CS, CKE and ODT.
Our products are available at 200, 267and 333 clock speed which is equivalent to 400, 533 and 667 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 compromissing 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.

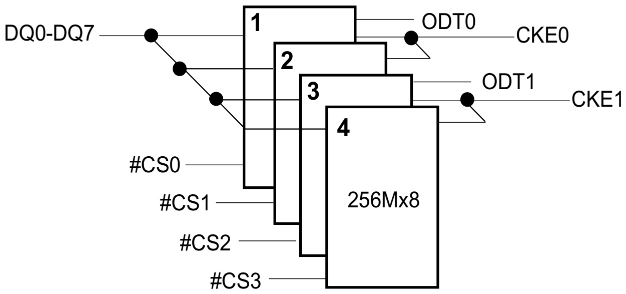
Pin Assignment

FBGA 65 (Pitch 0.80mm)

Top View
(Viewed by Transparency)



FUNCTIONAL BLOCK DIAGRAM



(All other signals are common to the two memories)

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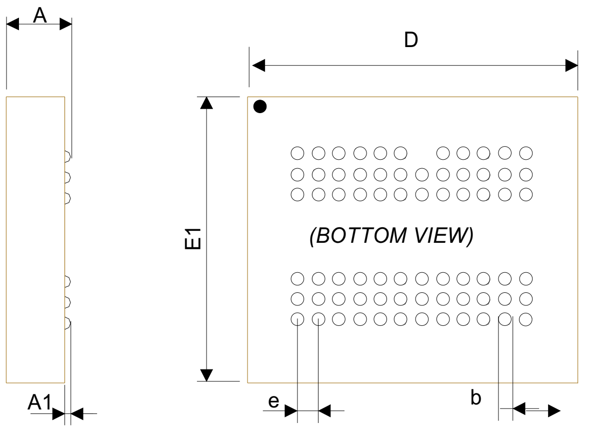
Mechanical Drawing



	Min	Max
A	2.90	3.10
A1	0.17	0.20
D	14.50	14.70
E1	12.50	12.70
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}	1.7	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

Parameter	Symbol	Value	Unit
Operating current (One bank active)	I_{DD1}	160	mA
Precharge power down current	I_{DD2P}	30	mA
Self refresh current	I_{DD6}	30	mA

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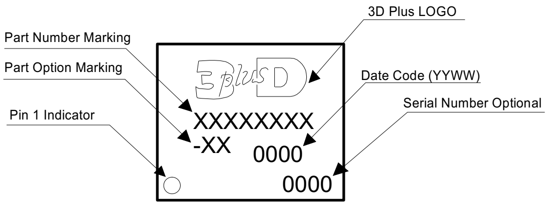
Temperature Range
C = (0°C to + 70°C)
I = (-40°C to + 85°C)
M = (-55°C to +125°C)

MODULE MARKING



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