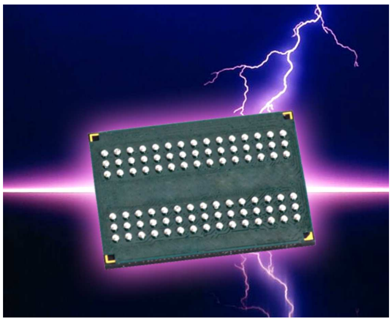
DDR3 Synchronous Dynamic Ram MODULE

3D3D8G16WB2392

8Gbit DDR3 SDRam organized as 512Mx16, based on 256Mx16



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 chop (BC) of 4
- Selectable BC4 or BL8 on-the-fly
- Self refresh mode
- Write leveling
- Multipurpose register
- Output driver calibration
- Clock rate available : 667Mhz, 800Mhz and 933Mhz
- Commercial, Industrial and Military temperature range.

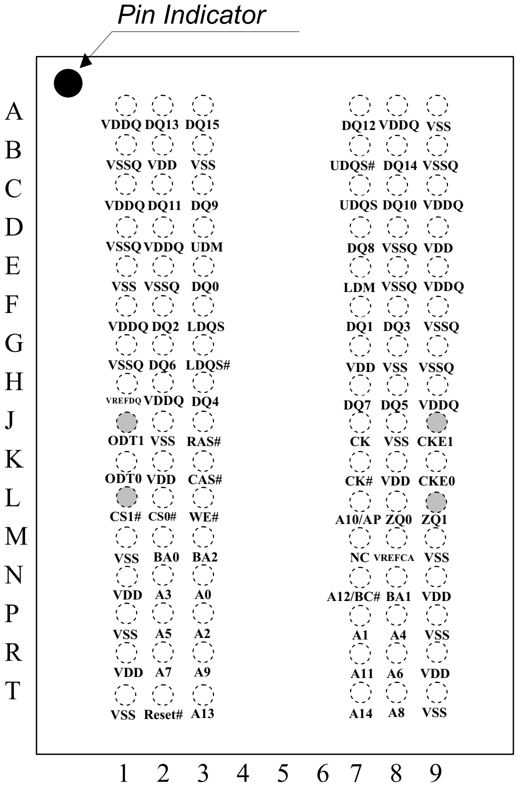
General description

3D Plus offers a new 8**Gbit DDR3 SDRAM** cube with a **compatible JEDEC standard package**.
This cube embeds 2 chips with a capacity of 4Gb (256Mbx16) each. They can be addressed with separates CS, CKE, ODT and ZQ.
Our products are available at 667, 800 and 933Mhz clock speed which is equivalent to 1333, 1600 and 1866 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

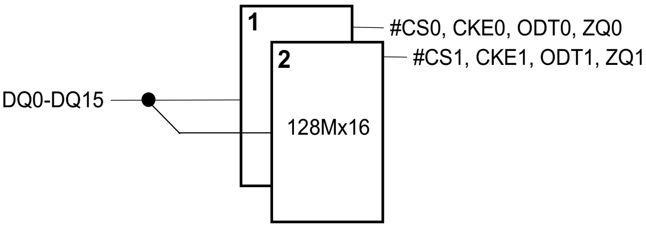
FBGA 96 (Pitch 0.80mm)

Top View
(Viewed by Transparency)



	1	2	3	4	5	6	7	8	9
A	VDDQ	DQ13	DQ15				DQ12	VDDQ	VSS
B	VSSQ	VDD	VSS				UDQS#	DQ14	VSSQ
C	VDDQ	DQ11	DQ9				UDQS	DQ10	VDDQ
D	VSSQ	VDDQ	UDM				DQ8	VSSQ	VDD
E	VSS	VSSQ	DQ0				LDM	VSSQ	VDDQ
F	VDDQ	DQ2	LDQS				DQ1	DQ3	VSSQ
G	VSSQ	DQ6	LDQS#				VDD	VSS	VSSQ
H	VREFDQ	VDDQ	DQ4				DQ7	DQ5	VDDQ
J	ODT1	VSS	RAS#				CK	VSS	CKE1
K	ODT0	VDD	CAS#				CK#	VDD	CKE0
L	CS1#	CS0#	WE#				A10/AP	ZQ0	ZQ1
M	VSS	BA0	BA2				NC	VREFCA	VSS
N	VDD	A3	A0				A12/BC#	BA1	VDD
P	VSS	A5	A2				A1	A4	VSS
R	VDD	A7	A9				A11	A6	VDD
T	VSS	Reset#	A13				A14	A8	VSS

FUNCTIONAL BLOCK DIAGRAM



(All other signals are common to the two memories)

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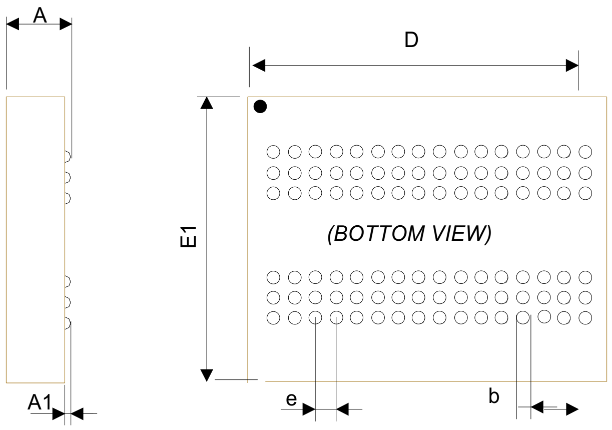
Mechanical Drawing



	Min	Max
A	3.20	3.40
A1	0.17	0.20
D	14.60	14.80
E1	10.60	10.80
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	VDD	1.425	1.575	V
I/O Supply Voltage relative to Vss	VDDQ	1.425	1.575	V
Input Leakage Current	Ii	-4	4	µA
Vref Supply Leakage Current	Ivref	-2	2	µA
Input ref. voltage com/ad bus	VREFCA	0.49xVDD	0.51xVDD	V
I/O Reference Voltage DQ bus	VREFDQ	0.49xVDD	0.51xVDD	V
I/O Ref. Volt. DQ bus in self refresh	VREFDQ	Vss	VDD	V

Absolute maximum ratings

Parameter	Symbol	Value	Unit
Voltage on any ball relative to VSS	VIN, VOUT	-0.4~ +1.975	V
Storage temperature	TSTG	-55 ~ +150	°C

DC Characteristics

Parameter	Symbol	Value	Unit
Operating current (One bank active)	IDD1	140	mA
Precharge power down current	IDD2P0	40	mA
Self refresh current	IDD6	44	mA

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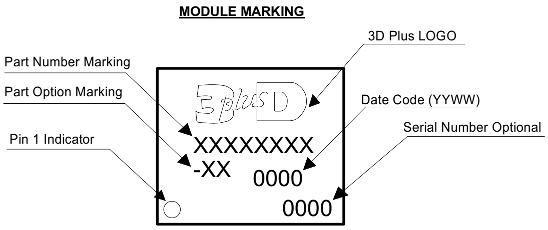
Temperature Range
C = (0°C to + 95°C)
I = (-40°C to + 95°C)
M = (-55°C to + 125°C)



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