128M Bytes (16M x 64) DRAM 168Pin DIMM based on 16M x 4

General Description

The UG516W664(8)4HK(S)G is a 16,777,216 bits by 64 EDO DRAM module. The UG516W664(8)4HK(S)G is assembled using 16 pcs of 16Mx4 4K/8K refresh DRAMs in a 32 pin 400 mil SOJ/TSOP package ,and one EEPROM for SPD in 8pin SOIC package mounted on a 168pin unbuffered printed circuit board.

Features

- Single 3.3 +/- 0.3V power supply
- Hyper-Page Mode (EDO) operation
- CAS-before-RAS Refresh capability
- 4096 \ 8192 refresh cycles every 64 \ 128ms
- 12/11 \ 13/10 Addressing (Row/Column)
- LVTTL compatible inputs and output
- Serial PD with EEPROM
- New JEDEC standard without buffer
- PCB:Height (1250mil), double sided component

Pin Assignment

Pin #	Signal	Pin #	Signal	Pin #	Signal	Pin #	Signal
1	VSS	43	VSS	85	VSS	127	VSS
2	DQ0	44	OE2	86	DQ32	128	NC
3	DQ1	45	RAS2	87	DQ33	129	NC
4	DQ2	46	CAS2	88	DQ34	130	CAS6
5	DQ3	47	CAS3	89	DQ35	131	CAS7
6	VCC	48	WE2	90	VCC	132	NC
7	DQ4	49	VCC	91	DQ36	133	VCC
8	DQ5	50	NC	92	DQ37	134	NC
9	DQ6	51	NC	93	DQ38	135	NC
10	DQ7	52	NC	94	DQ39	136	NC
11	DQ8	53	NC	95	DQ40	137	NC
12	VSS	54	VSS	96	VSS	138	VSS
13	DQ9	55	DQ16	97	DQ41	139	DQ48
14	DQ10	56	DQ17	98	DQ42	140	DQ49
15	DQ11	57	DQ18	99	DQ43	141	DQ50
16	DQ12	58	DQ19	100	DQ44	142	DQ51
17	DQ13	59	VCC	101	DQ45	143	VCC
18	VCC	60	DQ20	102	VCC	144	DQ52
19	DQ14	61	NC	103	DQ46	145	NC
20	DQ15	62	NC	104	DQ47	146	NC
21	NC	63	NC	105	NC	147	NC
22	NC	64	VSS	106	NC	148	VSS
23	VSS	65	DQ21	107	VSS	149	DQ53
24	NC	66	DQ22	108	NC	150	DQ54
25	NC	67	DQ23	109	NC	151	DQ55
26	VCC	68	VSS	110	VCC	152	VSS
27	WE0	69	DQ24	111	NC	153	DQ56
28	CAS0	70	DQ25	112	CAS4	154	DQ57
29	CAS1	71	DQ26	113	CAS5	155	DQ58
30	RAS0	72	DQ27	114	NC	156	DQ59
31	OE0	73	VCC	115	NC	157	VCC
32	VSS	74	DQ28	116	VSS	158	DQ60
33	A0	75	DQ29	117	A1	159	DQ61
34	A2	76	DQ30	118	A3	160	DQ62
35	A4	77	DQ31	119	A5	161	DQ63
36	A6	78	VSS	120	A7	162	VSS
37	A8	79	NC	121	A9	163	NC
38	A10	80	NC	122	A11	164	NC
39	A12	81	NC	123	NC	165	SA0
40	VCC	82	SDA	124	VCC	166	SA1
41	VCC	83	SCL	125	NC	167	SA2
42	NC	84	VCC	126	NC	168	VCC

Part Identification

Part Number	PKG	Ref.Cycle
UG516W6644HKG	400 mil SOJ	4K
UG516W6644HSG	400 mil TSOP	4K
UG516W6684HKG	400 mil SOJ	8K
UG516W6684HSG	400 mil TSOP	8K

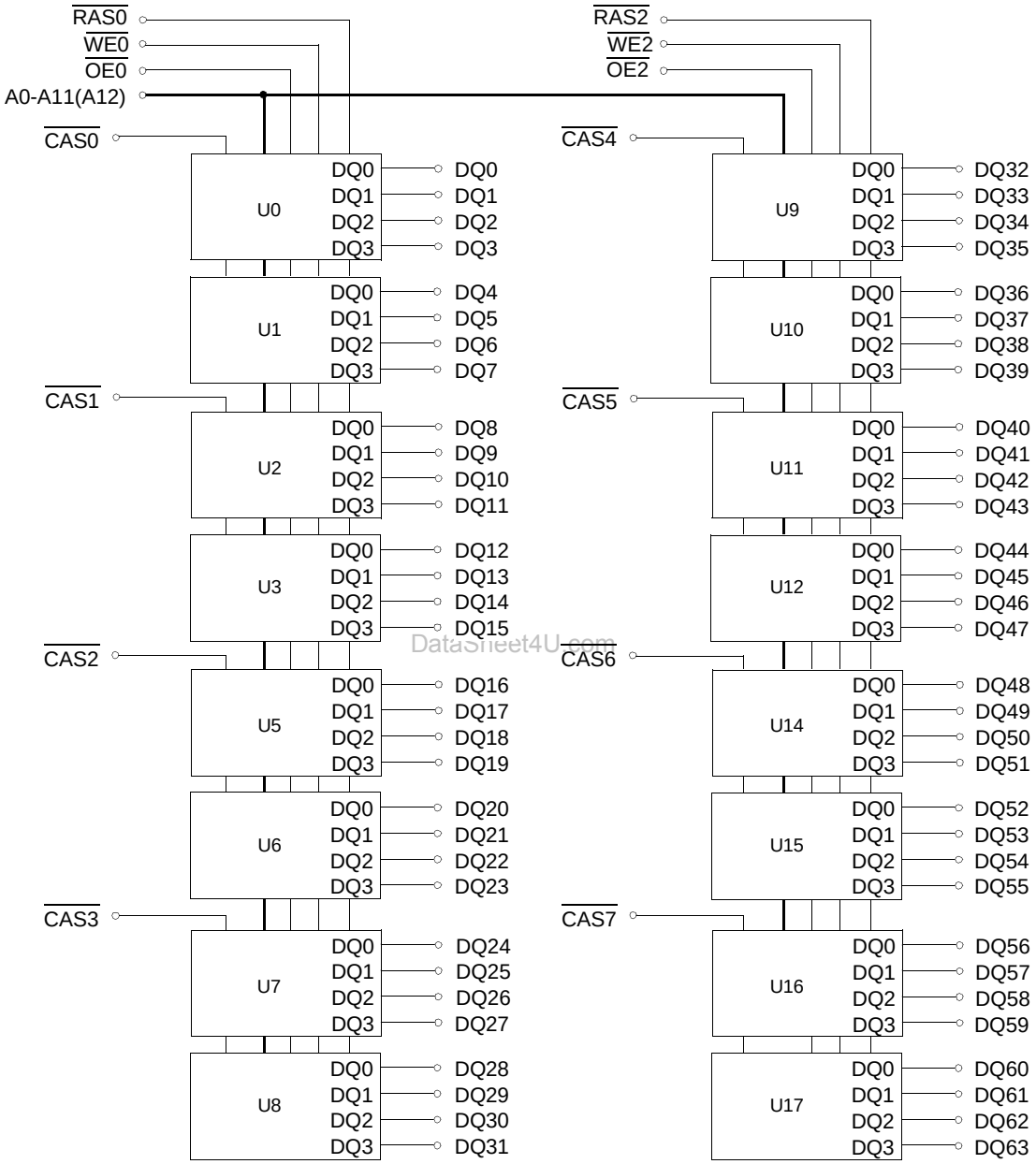
Absolute Maximum Ratings

Voltage Relative to GND	-0.5 to +4.6 V
Operating Temperature	0 to +70°C
Storage Temperature	-55°to +150°C
Short-circuit Output Current	50mA
Power Dissipation	16.0 W

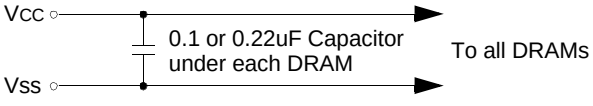
Pin Names

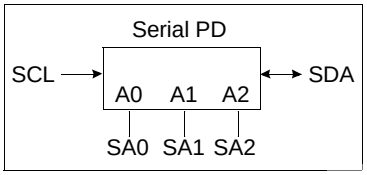
Pin Name	Function
A0 ~ A11	Address Input(4K ref.)
A0 ~ A12	Address Input(8K ref.)
DQ0 ~ DQ63	Data In/Out
WE0 , WE2	Read/Write Enable
OE0 , OE2	Output Enable
RAS0 , RAS2	Row Address Storbe
CAS0 ~ CAS7	Column Address Strobe
Vcc	Power(+3.3V)
Vss	Ground
NC	No Connection
SDA	Serial Address /Data I/O
SCL	Serial Clock
SA0 -SA2	Address in EEPROM

Functional Block Diagram



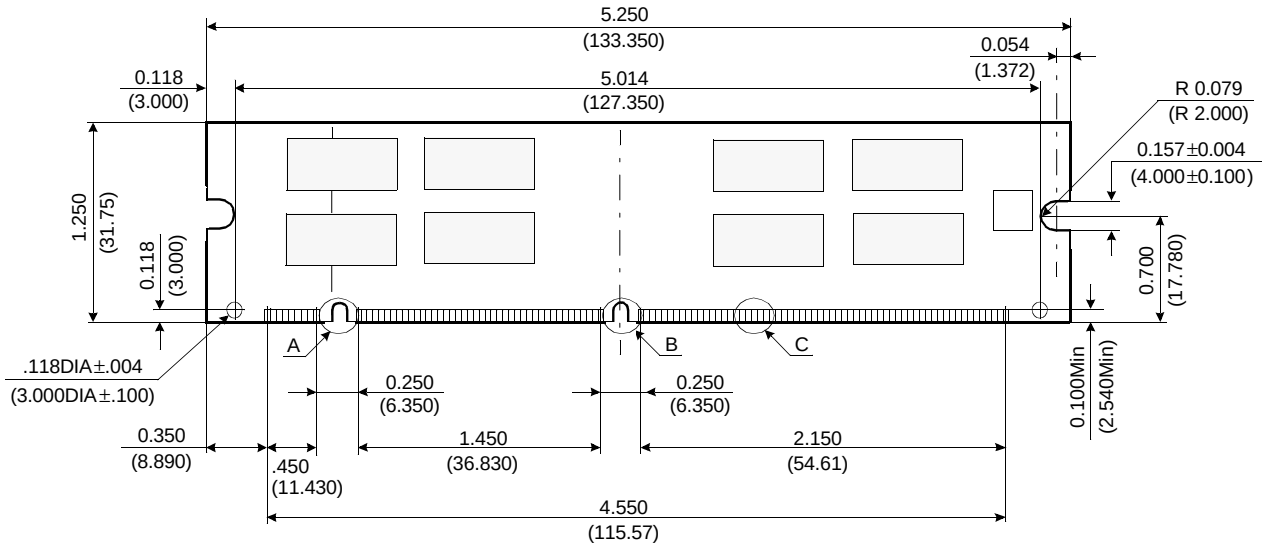
* A12 is used for 8K ref. only



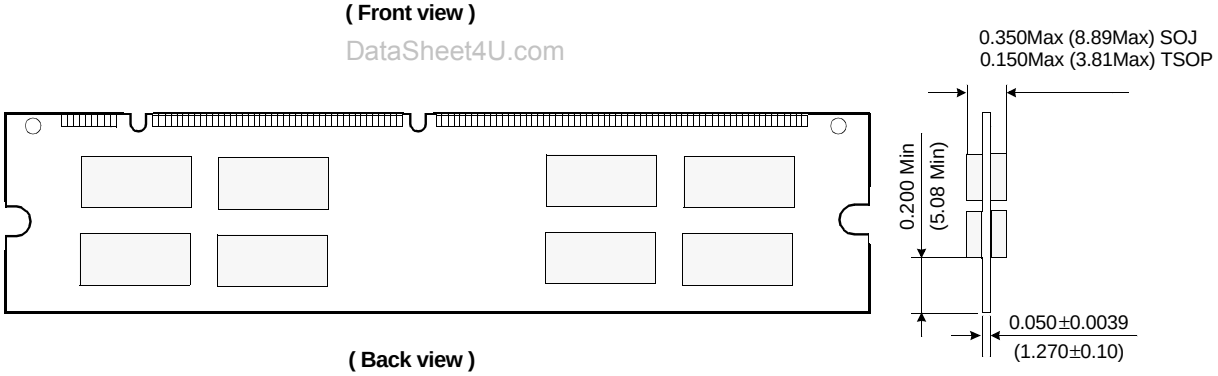


Physical Dimension

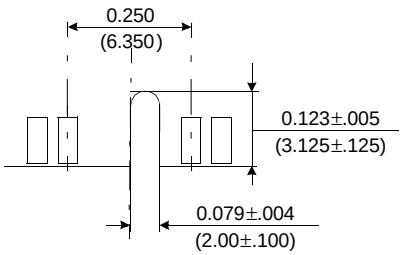
168 Pin DIMM Module



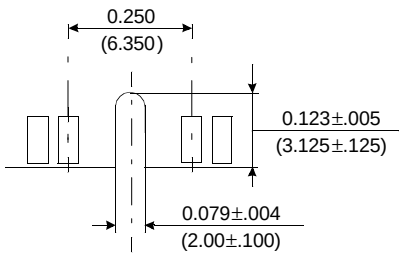
(Front view)



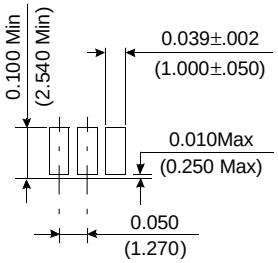
(Back view)



Detail A



Detail B



Detail C

Tolerances : ±.005(.13) unless otherwise specified

Units : Inches (millimeters)