

## Unbuffered Memory Module Data Sheet

### MW02GN6625UA8

2 GByte, DDR2, PC2-5300 (667 MHz) CL5 240 Pin DIMM

### MW02GN8025UA8

2 GByte, DDR2, PC2-6400 (800 MHz) CL5 240 Pin DIMM

#### Description:

**MW02GN6625UA8/MW02GN8025UA8** are 2 Gigabyte Memory Modules, organized as 256Mx64 bits DDR2-SDRAM. Each module is composed by sixteen 128Mx8 DDR2-SDRAMs ICs in FBGA package and one serial EEPROM for SPD (Serial Presence Detect), mounted on a JEDEC-Standard 240-pin DIMM (Dual In Line Memory Module) with golden contacts.

#### Features:

- 240-pin DIMM outline, unbuffered
- Double Data Rate architecture; two data transfers per clock cycle
- On-Die Termination Control
- Uses 128Mx8 DDR2-SDRAMs
- Differential clock inputs
- Programmable burst length: 4 or 8
- Clock Cycle Time (MW02GN6625UA8)
  - ( $t_{CK}$ ) = 3.00 ns (min.) / 8 ns (max.) @ CL=5
- Clock Cycle Time (MW02GN8025UA8)
  - ( $t_{CK}$ ) = 2.50 ns (min.) / 8 ns (max.) @ CL=5
- EEPROM Serial Presence Detection (SPD)
- Bidirectional, differential data strobe (DQS and /DQS)
- Eight internal device banks for concurrent operation
- Auto Refresh to Active ( $t_{RFC}$ ): 127.5ns (min)
- Auto precharge
- Auto-refresh and Self-refresh modes
- Row address  $A_0$ - $A_{13}$
- Column address  $A_0$ - $A_9$
- Bank address  $BA_0$ ~ $BA_2$
- SSTL\_18 Interface
- $VDD = VDDQ = 1.8 V \pm 0.1 V$

#### Specification:

| Symbol    | AC Characteristic                                  | Min.                  | Max.   | Unit |    |
|-----------|--|-----------------------|--------|------|----|
| $t_{CK}$  | CLK Cycle Time                                     | MW02GN6625UA8<br>CL=5 | 3000   | 8000 | ps |
|           |  | MW02GN8025UA8<br>CL=5 | 2500   |      |    |
| $t_{RC}$  | Row Cycle Time (Operation)                         | MW02GN6625UA8         | 60     | -    | ns |
|           |  | MW02GN8025UA8         | 57.5   |      |    |
| $t_{RAS}$ | Row Active Time                                    | 45                    | 70,000 | ns   |    |
| $t_{RFC}$ | Auto Refresh to Active / Auto Refresh Command Time | 127.5                 | -      | ns   |    |

#### Ratings:

|  | Rating        | Unit  | Condition    |
|--|---------------|-------|--------------|
| Power Dissipation, Operating<br>1 Bank Row Activating,<br>Precharge<br>1 Bank Idle, Standby<br>@VDD, VDDQ = 1.8V | MW02GN6625UA8 | 3.024 | W<br>Ta=25°C |
|  | MW02GN8025UA8 | 3.125 |              |
| Operating temperature <sup>1</sup>   | 0 ~ 85        | °C    |              |
| Storage temperature  | -55 ~ 100     | °C    |              |

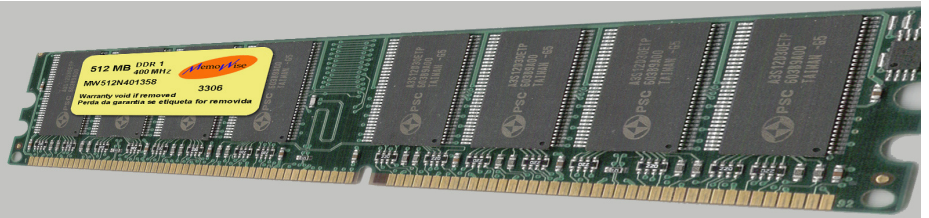
#### Notes:

1. It refers to the operating case temperature of DRAM ICs

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**Dimensions**

All dimensions are in millimeters (Inches); tolerance is  $\pm 0.127$  (0.005") unless otherwise indicated

