

## Comparison between

### AS4C64M8D1-5TIN and MT46V64M8P-5B IT:J - 512Mb DDR1

| Part Number&result<br>Parameter                        | AS4C64M8D1-5TIN                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | MT46V64M8P-5B IT:J                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Comparison<br>Result |
|--------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| Wafer Process                                          | 45nm                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                      |
| Power Supply                                           | VDD,VDDQ=2.5±0.2V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | VDD,VDDQ=2.5±0.2V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Same                 |
| Typical Power<br>Dissipation of<br>Normal<br>Operation | CLK = 200MHZ:<br>Operating current:<br>IDD0=80mA<br>Operating current<br>IDD1=90mA<br>Precharge power-down standby<br>current:<br>IDD2P=5mA<br>Precharge floating standby<br>current:<br>IDD2F=35mA<br>Precharge quiet standby current:<br>IDD2Q=35mA<br>Active power-down standby<br>current:<br>IDD3P=20mA<br>Active standby current:<br>IDD3N=65mA<br>operating current burst read<br>IDD4R=130mA<br>operating current burst write<br>IDD4W=130 mA<br>Auto refresh current:<br>IDD5=140 mA<br>Self refresh current:<br>IDD6=6mA<br>Burst operating current 4 bank<br>operation:<br>IDD7=210 mA | CLK = 200MHZ:<br>Operating current:<br>IDD0=75mA<br>Operating current<br>IDD1=85mA<br>Precharge power-down standby<br>current:<br>IDD2P=5mA<br>Precharge floating standby<br>current:<br>IDD2F=23mA<br>Active power-down standby<br>current:<br>IDD3P=18mA<br>Active standby current:<br>IDD3N=40mA<br>operating current burst read<br>IDD4R=120mA<br>operating current burst write<br>IDD4W=120 mA<br>Auto refresh current:<br>IDD5=120 mA<br>Self refresh current:<br>IDD6=5mA<br>Burst operating current 4 bank<br>operation:<br>IDD7=230 mA | Different            |
| Operating<br>Temperature                               | Industrial: -40°C to +85°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Industrial: -40°C to +85°C                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Same                 |
| Max Operating<br>Speed                                 | 200MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 200MHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Same                 |
| Interface                                              | Input Capacitance (CK, CK# )<br>2 – 3pF<br>Input Capacitance (All other                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Input Capacitance (CK, CK# )<br>2 – 3pF<br>Input Capacitance (All other                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Same                 |

|                                |                                                                                           |                                                                                           |                               |
|--------------------------------|-------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|-------------------------------|
| (Input/Output)<br>Capacitance  | input-only pins)<br>2 – 3pF<br>DQ, DQS, DM Input/Output<br>Capacitance<br>4 – 5pF         | input-only pins)<br>2 – 3pF<br>DQ, DQS, DM Input/Output<br>Capacitance<br>4 – 5pF         |                               |
| Interface<br>Definition        | Omit.(See datasheet)                                                                      | Omit.(See datasheet)                                                                      | Same. They are<br>pin to pin. |
| Interface<br>Material          | Pb and Halogen Free                                                                       | Pb and Halogen Free                                                                       | Same                          |
| Timing<br>Parameters           | Refer AS4C64M8D1-5TIN<br>and MT46V64M8P-5B ITJ<br>A.C. operating conditions<br>comparison | Refer AS4C64M8D1-5TIN<br>and MT46V64M8P-5B ITJ<br>A.C. operating conditions<br>comparison | Compatible                    |
| Timing<br>Diagram &<br>Command | Omit.(See datasheet)                                                                      | Omit.(See datasheet)                                                                      | Same                          |
| ESD Level                      | JEDEC: 2KV HBM                                                                            | JEDEC: 2KV HBM                                                                            | Same                          |
| Capacity                       | 512M                                                                                      | 512M                                                                                      | Same                          |
| Package                        | 66 Pin TSOP II, 0.65mm pin<br>pitch                                                       | 66 Pin TSOP II, 0.65mm pin<br>pitch                                                       | Same                          |
| Truth Table                    | Omit.(See datasheet)                                                                      | Omit.(See datasheet)                                                                      | same                          |