12815 NE 124th St STE#D, Kirkland, WA-98034

# AS4C512M16D3LC-10BIN vs MT41K512M16VRP-107IT:P Comparison

| Parameter \ Part Number & result | AS4C512M16D3LC-12BIN (Alliance Memory Rev.C) | MT41K512M16VRP-107IT:P (Micron Part) | Comparison Result |
|---|---|---|---|
| **Product Description** | **DDR3L SDRAM** | **DDR3L SDRAM** | Same |
| **Die in Package** | Dual Die Part | Dual Die Part | |
| **Density/Memory Size** | 8Gb | 8Gb | Same |
| **Memory Organization** | 64Mb x 16 IOs x 8 banks | 64Mb x 16 IOs x 8 banks | Same |
| **Data Bus Width** | 16 bits | 16 bits | Same |
| **Row / Column Address** | A[15:0] / A[9:0] | A[15:0] / A[9:0] | Same |
| **Page Size** | 2KB | 2KB | Same |
| **Operating PowerSupply** | VDD/Q=1.35V (1.283~1.45V) | VDD/Q=1.35V (1.283~1.45V) | Same |
| **DDR3 Compatibility** | Yes backward compatible to DDR3 (VDD/Q= 1.425V ~1.575V) | | Same |
| **Operating Temperature** | Industrial (-40°C ≤ Tc ≤ +95°C) | Industrial (-40°C ≤ Tc ≤ +95°C) | Same |
| **Clock Frequency** | 933 MHz | 933 MHz | Same |
| **Max Data Rate (MT/s)** | 1866 Mbps | 1866 Mbps | Same |
| **tRCD/tRP (ns)** | 13.91 | 13.91 | Same |
| **CL** | 13 | 13 | Same |
| **I/O Capacitance** | CIO :2.1pF Max | CIO : 4.2pF Max | Different |
| **Pin to Pin Compatible** | Yes | Yes | Same |
| **AC/DC Characteristics** | Same | Same | Meet JEDEC |
| **IDD Specification** | | | |
| **IDD Spec conditions** | -40C to 95C | -40C to 95C | |
| **$I_{DD0}$ (mA)** | 96 | 58 | Micron better |
| **$I_{DD1}$ (mA)** | 125 | 88 | Micron better |
| **$I_{DD2P0}$ (mA)** | 16 | 22 | Alliance better |
| **$I_{DD2P1}$ (mA)** | 30 | 22 | Micron better |
| **$I_{DD2N}$ (mA)** | 50 | 34 | Micron better |
| **$I_{DD2Q}$ (mA)** | 50 | 30 | Micron better |
| **$I_{DD3P}$ (mA)** | 54 | 30 | Micron better |
| **$I_{DD3N}$ (mA)** | 62 | 42 | Micron better |
| **$I_{DD4R}$ (mA)** | 200 | 180 | Micron better |
| **$I_{DD4W}$ (mA)** | 360 | 180 | Micron better |
| **$I_{DD5B}$ (mA)** | 477 | 304 | Micron better |
| **$I_{DD6}$ (mA)** | 24 | 30 | Alliance better |
| **$I_{DD6ET}$ (mA)** | 32 | 46 | Alliance better |
| **$I_{DD7}$ (mA)** | 270 | 292 | Alliance better |
| **$I_{DD8}$ (mA)** | 20 | 26 | Alliance better |
| Package Dimension | 96b FBGA (9 x 13 x 1.2mm) | 96b FBGA (8 x 14 x 1.2mm) | Different |
| Package Ball Matrix | 12 x 6.4 x 0.8mm | 12 x 6.4 x 0.8mm | Same |
| Pb & Halogen Free | Yes | Yes | Same |