

AS4C512M16D3LC-12BIN vs MT41K512M16HA-125IT:A Comparison

Part Number & result Parameter	AS4C512M16D3LC-12BIN (Rev.C)	MT41K512M16HA-125IT:A (Micron Part)	Comparison Result
Product Description	DDR3L SDRAM	DDR3L SDRAM	Same
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	800 MHz	800 MHz	Same
Max Data Rate (MT/s)	1600 Mbps	1600 Mbps	Same
tRCD/tRP (ns)	13.75	13.75	Same
CL	11	11	Same
I/O Capacitance	CIO :2.2pF Max	CIO : 2.5pF Max	Same
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	
IDD0 (mA)	94	67	Different
IDD1 (mA)	122	88	Different
IDD2P0 (mA)	16	11	Different
IDD2P1 (mA)	28	14	Different
IDD2N (mA)	48	36	Different
IDD2Q (mA)	48	34	Different
IDD3P (mA)	52	36	Different
IDD3N (mA)	60	51	Different
IDD4R (mA)	190	185	Different
IDD4W (mA)	350	185	Different
IDD5B (mA)	470	245	Different
IDD6 (mA)	24	24	Same
IDD6ET (mA)	32	34	Different
IDD7 (mA)	260	220	Different
IDD8 (mA)	20	16	Different
Package Dimension	96b FBGA (9 x 13 x 1.2mm)	96b FBGA (9 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