

AS4C512M8D3LC-12BAN vs MT41K512M8DA-107ITE Comparison

Part Number & result Parameter	AS4C512M8D3LC-12BAN	MT41K512M8DA-107IT:E	Comparison Result
Product Description	DDR3L SDRAM	DDR3L SDRAM	Same
Capacity	4Gb (512M x 8)	4Gb (512M x 8)	Same
Memory Organization	64Meg, x8bits, x8 banks	64Meg, x8bits, x8 banks	Same
Operating Power Supply	V _{DD} & V _{DDQ} = 1.35V (1.283V to 1.45V)	V _{DD} & V _{DDQ} = 1.35V (1.283V to 1.45V)	Same
DDR3 Compatibility	Yes (1.5V +/-0.075V)	Yes (1.5V +/-0.075V)	Same
Operating Temperature	Automotive (-40°C to 105°C)	Industrial (-40°C to 95°C)	Alliance Better
Clock Frequency	800MHz	933MHz	Micron Faster
Data Rate (MT/s)	1600	1866	Micron Faster
CAS Latency	11	13	Micron Faster
tRCD & tRP (ns)	13.75	13.91	Micron Faster
Average Refresh Period	8192 cycles/64ms upto 85C 32ms at >85C to 95C 16ms at >95C to 105C	8192 cycles/64ms upto 85C 32ms at >85C to 95C	Same
Pin to Pin Compatible	Pin to Pin Compatible		Same
AC/DC Characteristics	Same	Same	Meet JEDEC
I/O Capacitance	1.4~2.1pf	1.4~2.1pf	Same
IDD Specification			
IDD Spec conditions	-40C to 105C	-40C to 95C	
I_{DD0} (mA)	57	62	Alliance better
I_{DD1} (mA)	74	65	Micron better
I_{DD2P0} (mA)	9.6	18	Alliance better
I_{DD2P1} (mA)	17	37	Alliance better
I_{DD2N} (mA)	29	35	Alliance better
I_{DD2Q} (mA)	29	35	Alliance better
I_{DD3P} (mA)	32	41	Alliance better
I_{DD3N} (mA)	36	41	Alliance better
I_{DD4R} (mA)	114	174	Alliance better
I_{DD4W} (mA)	114	141	Alliance better
I_{DD5B} (mA)	282	242	Micron Better
I_{DD6} (mA)	32	20	Micron Better
I_{DD7} (mA)	156	251	Alliance better
I_{DD8} (mA)	12	20	Alliance better
Package 78b FBGA	(7.5mm x 10.6mm x 1.2mm) Ball Array(mm): 9.6 x 6.4 x 0.8	(8mm x 10.5mm x 1.2mm) BallArray (mm): 9.6x 6.4 x 0.8	Comparable
Package Material	Pb and Halogen Free	Pb and Halogen Free	Same