



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

MT40A512M16LY-062E:E vs AS4C512M16D4A-62BCN Comparison

Part Number & result Parameter	MT40A512M16LY-062E:E	AS4C512M16D4A-62BCN	Comparison Result
Product Description	DDR4 SDRAM	DDR4 SDRAM	Same
Die	Micron Die, Rev.E	Alliance Die, Rev.A	Different
Capacity	8Gb (512M x 16)	8Gb (512M x 16)	Same
Memory Organization	64Meg, x16bits, x8 banks	64Meg, x16bits, x8 banks	Same
Operating Power Supply	V _{DD} & V _{DDQ} = 1.2V (+/- 60mV)	V _{DD} & V _{DDQ} = 1.2V (+/- 60mV)	Same
	V _{pp} = 2.5V (-125mV,+250mV)	V _{pp} = 2.5V (-125mV,+250mV)	Same
Operating Temperature	Commercial (0°C ≤ Tc ≤ +95°C)	Commercial (0°C ≤ Tc ≤ +95°C)	Same
Max Clock Frequency	1600 MHz	1600 MHz	Same
Min. Cycle Time	0.625ns	0.625ns	Same
Max Data Rate	3200 Mbps	3200 Mbps	Same
CAS Latency	22	22	Same
tAA(ns)	13.75	13.75	Same
tRCD (ns)	13.75	13.75	Same
tRP (ns)	13.75	13.75	Same
Number of Bank groups	2	2	Same
Bank Count per Group	4	4	Same
Row Addressing	64K (A0..A15)	64K (A0..A15)	Same
Column Addressing	1K (A0..9)	1K (A0..9)	Same
Page Size per bank	1KB	1KB	Same
Temperature controlled Refresh time	8192 Cycles at Tc range 64ms at 0C ~ 85C 32ms at 85C ~ 95C	8192 Cycles at Tc range 64ms at 0C ~ 85C 32ms at 85C ~ 95C	Same
Low Power Auto Self Refresh support	Yes	Yes	
I/O Capacitance	CIO = 1pF Max	CIO = 1pF Max	Same
Pin to Pin Compatible	Pin to Pin Compatible		
AC/DC Characteristics	Same		Meet JEDEC



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IDD Specification			
Parameter	MT40A512M16LY-062E:E	AS4C512M16D4A-62BCN	Comparison Result
IDD Spec conditions	0C to 95C	0C to 95C	
I _{DD0} (mA) , I _{pp0} (mA)	60, 4	104, 7	Micron better
I _{DD1} (mA)	87	131	Micron better
I _{DD2N} (mA)	38	67	Micron better
I _{DD2NT} (mA)	61	85	Micron better
I _{DD2P} (mA)	27	29	Micron better
I _{DD2Q} (mA)	31	39	Micron better
I _{DD3N} (mA)	50	115	Micron better
I _{DD3P} (mA)	41	71	Micron better
I _{DD4R} (mA)	330	295	Alliance better
I _{DD4W/A/B} (mA)	268	316	Micron better
I _{DD6N} (mA)	34	26	Alliance better
I _{DD6R} (mA)	21	18	Alliance better
I _{DD6E} (mA)	155	38	Alliance better
I _{DD7} (mA)	280	279	Alliance better
Package	96b FBGA 7.5x13.5 x1.2mm	96b FBGA 7.5x13x1.2mm	Comparable
Solder Ball material Composition	SAC302 (96.8% Sn, 3% Ag, 0.2% Cu).	SAC305 (96.5% Sn, 3% Ag, 0.5% Cu).	Different
Package Material	Pb and Halogen Free	Pb and Halogen Free	Same