



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

AS4C512M16D4A-62BCN vs MT40A512M16TB-062ER Comparison

Part Number & result Parameter	AS4C512M16D4A-62BCN	MT40A512M16TB-062ER	Comparison Result
Product Description	DDR4 SDRAM	DDR4 SDRAM	Same
Die	Rev.A	Micron Die Rev.R	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	AS4C512M16D4A-62BCN	MT40A512M16TB-062ER	Comparison Result
IDD Spec conditions	-40C to 95C	-40C to 85C	
I _{DD0} (mA) , I _{pp0} (mA)	104 , 7	59, 5	Micron better
I _{DD1} (mA)	131	69	Micron better
I _{DD2N} (mA)	67	38	Micron better
I _{DD2NT} (mA)	85	46	Micron better
I _{DD2P} (mA)	29	30	Comparable
I _{DD2Q} (mA)	39	34	Micron better
I _{DD3N} (mA)	115	44	Micron better
I _{DD3P} (mA)	71	34	Micron better
I _{DD4R} (mA)	295	176	Micron better
I _{DD4W/A/B} (mA)	316	138	Micron better
I _{DD6N} (mA)	26	32	Alliance better
I _{DD6R} (mA)	18	19	Alliance better
I _{DD6E} (mA)	38	52	Alliance better
I _{DD7} (mA)	279	225	Micron better
Package	96b FBGA 7.5x13x1.2mm	96b FBGA 7.5x13x1.2mm	Same
Solder Ball material Composition	SAC305 (96.5% Sn, 3% Ag, 0.5% Cu).	SACQ (92.45% Sn, 4% Ag, 0.5% Cu, 3% Bi, 0.05% Ni).	Different
Package Material	Pb and Halogen Free	Pb and Halogen Free	Same