

AS4C1G8D4A-62BIN vs MT40A1G8SA-062EIT:R Comparison

Part Number & result Parameter	AS4C1G8D4A-62BIN	MT40A1G8SA-062EIT:R	Comparison Result
Product Description	DDR4 SDRAM	DDR4 SDRAM	Same
Die	Alliance Die, Rev.A	Micron Die, Rev.R	Different
Capacity	8Gb (1G x 8)	8Gb (1G x 8)	Same
Memory Organization	64Meg, x8bits, x16 banks	64Meg, x8bits, x16 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	Industrial (-40°C ≤ Tc ≤ +95°C)	Industrial (-40°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	4	4	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 -40C ~ 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 = 1.15pF Max	CIO = 0.78pF Max	Comparable
Pin to Pin Compatible	Pin to Pin Compatible		
AC/DC Characteristics	Same		Meet JEDEC



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IDD Specification			
Parameter	AS4C1G8D4A-62BIN	MT40A1G8SA-062EIT:R	Comparison Result
IDD Spec conditions	-40C to 95C	-40C to 85C	Different
I _{DD0} (mA) , I _{pp0} (mA)	99 , 3.8	48 , 4	Micron better
I _{DD1} (mA)	114	55	Micron better
I _{DD2N} (mA)	65	38	Micron better
I _{DD2NT} (mA)	85	41	Micron better
I _{DD2P} (mA)	29	30	comparable
I _{DD2Q} (mA)	37	34	Micron better
I _{DD3N} (mA)	114	43	Micron better
I _{DD3P} (mA)	70	33	Micron better
I _{DD4R} (mA)	212	123	Micron better
I _{DD4W} (mA)	253	106	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)	212	155	Micron better
Package	96b FBGA (7.5mm x 12mm x 1.2mm) Ball Array (mm): 9.6 x 6.4 x 0.8	96b FBGA (7.5mm x 11mm x 1.2mm) Ball Array (mm): 9.6 x 6.4 x 0.8	Comparable
Solder Ball material Composition	SAC305 (96.49% Sn, 3% Ag, 0.5% Cu, 0.01 Ge).	SAC305 (96.5% Sn, 3% Ag, 0.5% Cu)..	Same
Package Material	Pb and Halogen Free	Pb and Halogen Free	Same