

AS4C512M16D4-75BxN vs AS4C512M16D4A-62BxN Comparison

Part Number & result Parameter	AS4C512M16D4-75BCN AS4C512M16D4-75BIN	AS4C512M16D4A-62BCN AS4C512M16D4A-62BIN	Comparison Result
Product Description	DDR4 SDRAM	DDR4 SDRAM	Same
Die Rev	Rev.0	Rev.A	Different IP
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
	Vpp = 2.5V (-125mV,+250mV)	Vpp = 2.5V (-125mV,+250mV)	Same
Operating Temperature	Commercial: 0°C ≤ Tc ≤ +95°C Industrial: -40°C ≤ Tc ≤ +95°C	Commercial: 0°C ≤ Tc ≤ +95°C Industrial: -40°C ≤ Tc ≤ +95°C	Same
Max Clock Frequency	1333 MHz	1600 MHz	Rev.A faster and better
Max Data Rate	2666 Mbps	3200 Mbps	
CAS Latency	19	22 for 1600 MHz 19 for 1333 MHz	Rev.A better
tAA, tRCD & tRP (ns)	14.25	13.75 for 1600MHz 14.25 for 1333MHz	Rev.A better
Average Refresh cycles	7.8 μs at -40°C ≤ Tc ≤ +85°C 3.9 μs at +85°C < Tc ≤ +95°C	7.8 μs at -40°C ≤ Tc ≤ +85°C 3.9 μs at +85°C < Tc ≤ +95°C	Same
I/O Capacitance	CIO = 1.4pF Max	CIO = 1pf	Rev.A better
Pin to Pin Compatible	Compatible		Same
AC/DC Characteristics	Comparable		Meet JEDEC
IDD Specification			
IDD Spec conditions	-40C to 95C	-40C to 95C	
IDD0 (mA) , Ipp0 (mA)	110 , 8	104 , 7	Rev.A better
IDD1 (mA)	135	131	Rev.A better
IDD2N (mA)	70	67	Rev.A better
IDD2NT (mA)	135	85	Rev.A better
IDD2P (mA)	40	29	Rev.A better
IDD2Q (mA)	50	39	Rev.A better
IDD3N (mA)	104	115	Rev.0 better
IDD3P (mA)	70	71	comparable
IDD4R/A/B (mA)	340, 355, 300	295, 306, 293	Rev.A better
IDD4W/A/B (mA)	420, 430, 430	316, 326, 317	Rev.A better
IDD6N (mA)	32	26	Rev.A better
IDD6R (mA)	28	18	Rev.A better
IDD6E (mA)	42	38	Rev.A better
IDD7 (mA)	320	279	Rev.A better
Package 96b FBGA	7.5mm x 13mm x 1.2mm BallArray (mm): 12x 6.4 x 0.8	7.5mm x 13mm x 1.2mm BallArray (mm): 12x 6.4 x 0.8	Same
Package Material	Pb and Halogen Free	Pb and Halogen Free	Same

AS4C1G8D4-75BxN vs AS4C1G8D4A-62BxN Comparison

Part Number & result Parameter	<u>AS4C1G8D4-75BCN</u> <u>AS4C1G8D4-75BIN</u>	<u>AS4C1G8D4A-62BCN</u> <u>AS4C1G8D4A-62BIN</u>	Comparison Result
Product Description	DDR4 SDRAM	DDR4 SDRAM	Same
Die Rev & Tech Node	Rev.0	Rev.A	Different IP
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	Commercial : 0°C ≤ T _c ≤ +95°C Industrial: -40°C ≤ T _c ≤ +95°C	Commercial : 0°C ≤ T _c ≤ +95°C Industrial: -40°C ≤ T _c ≤ +95°C	Same
Max Clock Frequency	1333 MHz	1600 MHz	Rev.A faster and better
Max Data Rate	2666 Mbps	3200 Mbps	
CAS Latency	19	22 for 1600 MHz 19 for 1333 MHz	Rev.A better
tAA, tRCD & tRP (ns)	14.25	13.75 for 1600MHz 14.25 for 1333MHz	Rev.A better
Average Refresh cycles	7.8 μs at -40°C ≤ T _c ≤ +85°C 3.9 μs at +85°C < T _c ≤ +95°C	7.8 μs at -40°C ≤ T _c ≤ +85°C 3.9 μs at +85°C < T _c ≤ +95°C	Same
I/O Capacitance	CIO = 1.4pF Max	CIO = 1.15pF	Same
Pin to Pin Compatible	Compatible		Same
AC/DC Characteristics	Comparable		Meet JEDEC
IDD Specification			
IDD Spec conditions	-40C to 95C	-40C to 95C	
I _{DD0} (mA) , I _{pp0} (mA)	105 , 5	84 , 3.8	Rev.A better
I _{DD1} (mA)	115	102	Rev.A better
I _{DD2N} (mA)	68	55	Rev.A better
I _{DD2NT} (mA)	120	74	Rev.A better
I _{DD2P} (mA)	40	29	Rev.A better
I _{DD2Q} (mA)	50	35	Rev.A better
I _{DD3N} (mA)	104	103	Rev.A better
I _{DD3P} (mA)	68	64	Rev.A better
I _{DD4R/A/B} (mA)	245, 260, 230	189, 200, 189	Rev.A better
I _{DD4W/A/B} (mA)	310, 320, 310	217, 209, 224	Rev.A better
I _{DD6N} (mA)	32	26	Rev.A better
I _{DD6R} (mA)	28	18	Rev.A better
I _{DD6E} (mA)	42	38	Rev.A better
I _{DD7} (mA)	240	212	Rev.A better
Package 96b FBGA	(7.5mm x 12mm x 1.2mm) BallArray (mm): 9.6 x 6.4 x 0.8	(7.5mm x 12mm x 1.2mm) BallArray (mm): 9.6 x 6.4 x 0.8	Same
Package Material	Pb and Halogen Free	Pb and Halogen Free	Same