

AS4C512M16D4-75BIN vs AS4C512M16D4A-62BIN Comparison

Part Number & result Parameter	AS4C512M16D4-75BIN	AS4C512M16D4A-62BIN	Comparison Result
Product Description	DDR4 SDRAM	DDR4 SDRAM	Same
Die Rev & Tech Node	Rev.0 & 20nm	Rev.A & 20nm	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	Industrial (-40°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		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) , Ipp0 (mA)	110 , 8	104 , 7	Rev.A better
I _{DD1} (mA)	135	131	Rev.A better
I _{DD2N} (mA)	70	67	Rev.A better
I _{DD2NT} (mA)	135	85	Rev.A better
I _{DD2P} (mA)	40	29	Rev.A better
I _{DD2Q} (mA)	50	39	Rev.A better
I _{DD3N} (mA)	104	115	Rev.0 better
I _{DD3P} (mA)	70	71	same
I _{DD4R/A/B} (mA)	340, 355, 300	295, 306, 293	Rev.A better
I _{DD4W/A/B} (mA)	420, 430, 430	316, 326, 317	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)	320	279	Rev.A better



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Package 96b FBGA	(7.5mm x 13mm x 1.2mm) BallArray (mm): 12x 6.4 x 0.8	(9mm x 14mm x 1.2mm) BallArray (mm): 12x 6.4 x 0.8	Comparable
Package Material	Pb and Halogen Free	Pb and Halogen Free	Same