



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

AS4C512M16D4A-62BIN vs AS4C512M16D4B-62BCN Comparison

Part Number & result Parameter	AS4C512M16D4A-62BIN	AS4C512M16D4B-62BCN	Comparison Result
Product Description	DDR4 SDRAM	DDR4 SDRAM	Same
Die	Rev.A, 20nm	Rev.B, 1-alpha	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	Industrial (-40°C ≤ T _c ≤ +95°C)	Commercial (0°C ≤ T _c ≤ +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 T _c range 64ms at -40C ~ 85C 32ms at 85C ~ 95C	8192 Cycles at T _c range 64ms at 0C ~ 85C 32ms at 85C ~ 95C	Different
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-62BIN	AS4C512M16D4B-62BCN	Comparison Result
IDD Spec conditions	-40C to 95C	-40C to 85C	
I _{DD0} (mA) , I _{pp0} (mA)	104 , 7	59, 5	Rev.B better
I _{DD1} (mA)	131	69	Rev.B better
I _{DD2N} (mA)	67	38	Rev.B better
I _{DD2NT} (mA)	85	46	Rev.B better
I _{DD2P} (mA)	29	30	Comparable
I _{DD2Q} (mA)	39	34	Rev.B better
I _{DD3N} (mA)	115	44	Rev.B better
I _{DD3P} (mA)	71	34	Rev.B better
I _{DD4R} (mA)	295	176	Rev.B better
I _{DD4W/A/B} (mA)	316	138	Rev.B better
I _{DD6N} (mA)	26	32	Rev.A better
I _{DD6R} (mA)	18	19	Rev.A better
I _{DD6E} (mA)	38	52	Rev.A better
I _{DD7} (mA)	279	225	Rev.B 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