

AS4C512M16D4A-62BxN vs AS4C512M16D4D-62BxN Comparison

Part Number & result Parameter	AS4C512M16D4A-62BxN	AS4C512M16D4D-62BxN	Comparison Result
Product Description	DDR4 SDRAM, RevA	DDR4 SDRAM, RevD	different IPs
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 ≤ 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	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	8192Cycles/64ms (7.8uS at -40C~85C) 8192Cycles/32ms (3.9uS at 85C~95C)	8192Cycles/64ms (7.8uS at -40C~85C) 8192Cycles/32ms (3.9uS 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 Specifications			
Parameter	AS4C512M16D4A-62BxN	AS4C512M16D4D-62BxN	Comparison Result
IDD Spec conditions	-40C to 95C	-40C to 95C	Same
I_{DD0} (mA) , I_{pp0} (mA)	104 , 7	99 , 8	Rev.D better
I_{DD1} (mA)	131	112	Rev.D better
I_{DD2N} (mA)	67	83	Rev.A better
I_{DD2NT} (mA)	85	90	Rev.A better
I_{DD2P} (mA)	29	61	Rev.A better
I_{DD2Q} (mA)	39	67	Rev.A better
I_{DD3N} (mA)	115	100	Rev.D better
I_{DD3P} (mA)	71	91	Rev.A better
I_{DD4R} (mA)	295	256	Rev.D better
I_{DD4W} (mA)	316	313	Rev.D better
I_{DD6N} (mA)	26	43	Rev.A better
I_{DD6R} (mA)	18	36	Rev.A better
I_{DD6E} (mA)	38	72	Rev.A better
I_{DD7} (mA)	279	296	Rev.A better
Package	96b FBGA 7.5x13x1.2mm	96b FBGA 7.5x13x1.2mm	Same
Solder Ball material Composition	SAC305+Ge (96.49% Sn, 3% Ag, 0.5% Cu, 0.01 Ge).	SAC302 (96.8% Sn, 3% Ag, 0.2% Cu).	Comparable
Package Material	Pb and Halogen Free	Pb and Halogen Free	Same