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

AS4C512M16D4A-62BIN vs MT40A512M16TB-062EITR Comparison

Part Number & result / Parameter	AS4C512M16D4A-62BIN	MT40A512M16TB-062EITR	Comparison Result
Product Description	**DDR4 SDRAM**	**DDR4 SDRAM**	Same
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	1600 MHz	1600 MHz	Same
Max Data Rate	3200 Mbps	3200 Mbps	
CAS Latency	22	22	Same
tRCD & tRP (ns)	13.75	13.75	Same
Average Refresh cycles 8192 cycle per	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 = 1pF Max	CIO = 1pF Max	Same
Pin to Pin Compatible	Pin to Pin Compatible		
AC/DC Characteristics	Comparable		Meet JEDEC
IDD Specification			
IDD Spec conditions	-40C to 95C	-40C to 95C	
I_{DD0} (mA) , Ipp0 (mA)	104 , 7	59, 5	Micron better
I_{DD1} (mA)	131	69	Micron better
I_{DD2N} (mA)	67	38	Micron better
I_{DD2NT} (mA)	85	46	Micron better
I_{DD2P} (mA)	29	30	Alliance better
I_{DD2Q} (mA)	39	34	Micron better
I_{DD3N} (mA)	115	44	Micron better
I_{DD3P} (mA)	71	34	Micron better
I_{DD4R} (mA)	295	176	Micron better
$I_{DD4W/A/B}$ (mA)	316	138	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)	279	225	Micron better
Package 96b FBGA	7.5x13x1.2mm	7.5x13x1.2mm	Same
Solder Ball Composition	**SAC305** (96.5% Sn, 3% Ag, 0.5% Cu).	**SAC305** (96.5% Sn, 3% Ag, 0.5% Cu).	Same
Package Material	Pb and Halogen Free	Pb and Halogen Free	Same