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

MT40A1G16KH-062E:E vs AS4C1G16D4A-62BCN Comparison

Part Number & result Parameter	MT40A1G16KH-062E:E	AS4C1G16D4A-62BCN	Comparison Result
Product Description	**DDR4 SDRAM**	**DDR4 SDRAM**	Same
Capacity	16Gb (1G x 16)	16Gb (1G x 16)	Same
Memory Organization	128Meg, x16bits, x8 banks	128Meg, 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)	Commercial (0°C ≤ Tc ≤ +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	128K (A0..A16)	128K (A0..A16)	Same
Column Addressing	1K (A0..9)	1K (A0..9)	Same
Page Size per bank	2KB	2KB	Same
Temperature controlled Refresh time	8192 Cycles at Tc range 64ms at 0C ~ 85C 32ms at 85C ~ 95C	8192 Cycles at Tc range 64ms at 0C ~ 85C 32ms at 85C ~ 95C	Same
Low Power Auto Self Refresh support	Yes	Yes	Same
I/O Capacitance	CIO = 0.82pF Max	CIO = 0.82pF Max	Same
Pin to Pin Compatible	Pin to Pin Compatible		
AC/DC Characteristics	Same		Meet JEDEC

IDD Specification			
Parameter	**MT40A1G16KH-062E:E**	**AS4C1G16D4A-62BCN**	**Comparison Result**
IDD Spec conditions	-40C ≤ Tc ≤ 85C	-40C ≤ Tc ≤ 85C	
I_{DD0} (mA) , Ipp0 (mA)	70, 4	70, 4	Same
I_{DD1} (mA)	90	84	Comparable
I_{DD2N} (mA)	50	45	Comparable
I_{DD2NT} (mA)	58	58	Same
I_{DD2P} (mA)	43	38	Comparable
I_{DD2Q} (mA)	47	42	Comparable
I_{DD3N} (mA)	62	62	Same
I_{DD3P} (mA)	51	51	Same
I_{DD4R} (mA)	299	193	Alliance better
$I_{DD4W/A/B}$ (mA)	236	141	Alliance better
I_{DD6N} (mA)	57	53	Comparable
I_{DD6R} (mA)	24	20	Comparable
I_{DD6E} (mA)	113	90	Alliance better
I_{DD7} (mA)	251	200	Alliance better
Package	**96b FBGA** 9x13x1.2mm	**96b FBGA** 7.5x13x1.2mm	Comparable
Solder Ball material Composition	**SACQ** (92.45% Sn, 4% Ag, 0.5% Cu, 3% Bi, 0.05% Ni)	**SACQ** (92.45% Sn, 4% Ag, 0.5% Cu, 3% Bi, 0.05% Ni).	Same
Package Material	Pb and Halogen Free	Pb and Halogen Free	Same