

AS4C256M16D4-83BIN vs MT40A256M16GE-083EITB Comparison

Part Number & result Parameter	AS4C256M16D4-83BIN	MT40A256M16GE-083E:ITB	Comparison Result
Product Description	DDR4 SDRAM	DDR4 SDRAM	Same
Capacity	4Gb (256M x 16)	4Gb (256M x 16)	Same
Memory Organization	32Meg, x16bits, x8 banks	32Meg, 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 (Tc = -40°C to 95°C)	Industrial (Tc = -40°C to 95°C)	Same
Clock Frequency	1200MHz	1200MHz	Same
Data Rate (MT/s)	2400	2400	Same
CAS Latency	17	16	Comparable
tAA, tRCD & tRP (ns)	14.16	13.32	Comparable
Average Refresh Period	(7.8us at -40°C ≤ TC ≤ +85°C) (3.9us at +85°C ≤ TC ≤ +95°C)	(7.8us at -40°C ≤ TC ≤ +85°C) (3.9us at +85°C ≤ TC ≤ +95°C)	Same
I/O Capacitance	Comparable		Same
Pin to Pin Compatible	Pin to Pin Compatible		Same
AC/DC Characteristics	Comparable		Meet JEDEC
IDD Specification			
IDD Spec conditions	-40C to 95C	-40C to 95C	
I_{DD0} (mA) , I_{pp0} (mA)	86 , 8	69 , 4	Micron better
I_{DD1} (mA)	128	97	Micron better
I_{DD2N} (mA)	67	41	Micron better
I_{DD2NT} (mA)	86	56	Micron better
I_{DD2P} (mA)	40	22	Micron better
I_{DD2Q} (mA)	67	36	Micron better
I_{DD3N} (mA)	78	57	Micron better
I_{DD3P} (mA)	64	33	Micron better
I_{DD4R} (mA)	188	236	Alliance better
I_{DD4W} (mA)	211	179	Micron better
I_{DD6N} (mA)	30	24	Comparable
I_{DD6R} (mA)	25	25	Same
I_{DD6E} (mA)	36	47	Alliance better
I_{DD7} (mA)	234	289	Alliance better
Package 96b FBGA	(7.5mm x 13.5mm x 1.2mm) Ball Array (mm): 12 x 6.4 x 0.8	(9mm x 14mm x 1.2mm) Ball Array (mm): 12 x 6.4 x 0.8	Comparable Alliance better
Package Material	Pb and Halogen Free	Pb and Halogen Free	Same