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

AS4C256M16D3LD-12BAN vs EM6GE16EWAKG-12BH Comparison

Parameter \ Part Number & result	AS4C256M16D3LD-12BAN	EM6GE16EWAKG-12BH	Comparison Result
Product Description	**DDR3L SDRAM** Backward compatible as DDR3	**DDR3 SDRAM**	Same
Capacity	4Gb (256M x 16)	4Gb (256M x 16)	Same
Memory Organization	32Mwords, x16bits, x8 banks	32Mwords, x16bits, x8 banks	Same
Operating Power Supply	V_{DD} & V_{DDQ} = 1.5V(+/-0.075V) V_{DD} & V_{DDQ} = +1.35V (-0.067/+0.1V)	V_{DD} & V_{DDQ} = 1.5V (+/-0.075V)	Alliance better
Operating Temperature	Automotive (-40°C ≤ Tc ≤ 105°C)	Automotive (-40°C ≤ Tc ≤ 105°C)	Same
Clock Frequency (Max)	800MHz	800MHz	Same
Data Rate (Max)	1600MT/s	1600MT/s	Same
CAS Latency	11	11	Same
tRCD & tRP (ns)	13.75	13.75	Same
Average Refresh Period	7.8us (<85C), 3.9us at 85C~95C	7.8us (<85C), 3.9us at 85C~95C	Same
I/O Capacitance	2.3pf	2.3pf	Comparable
Pin to Pin Compatible	Pin to Pin Compatible		Same
AC/DC Characteristics	Same	Same	Meet JEDEC
IDD Specification			
IDD Spec conditions	-40C to 105C	-40C to 105C	Same
I_{DD0} (mA)	156	75	Etron better
I_{DD1} (mA)	182	106	Etron better
I_{DD2P0} (mA)	68	11	Etron better
I_{DD2P1} (mA)	102	19	Etron better
I_{DD2N} (mA)	111	32	Etron better
I_{DD2Q} (mA)	111	32	Etron better
I_{DD3P} (mA)	111	34	Etron better
I_{DD3N} (mA)	143	50	Etron better
I_{DD4R} (mA)	286	202	Etron better
I_{DD4W} (mA)	286	202	Etron better
I_{DD5B} (mA)	260	306	Etron better
I_{DD6} (mA)	90	32	Etron better
I_{DD7} (mA)	364	247	Etron better
I_{DD8} (mA)	39	15	Etron better
Package 96b FBGA	(7.5mm x 13.5mm x 1.0mm) Ball Array (mm): 12x 6.4 x 0.8	(7.5mm x 13.5mm x 1.2mm) Ball Array (mm): 12x 6.4 x 0.8	Comparable
Package Material	Pb and Halogen Free	Pb and Halogen Free	Same