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

MT40A512M8RH-083EITB vs AS4C512M8D4-75BIN Comparison

Part Number & result / Parameter	MT40A512M8RH-083EITB	AS4C512M8D4-75BIN	Comparison Result
Product Description	DDR4 SDRAM	DDR4 SDRAM	Same
Capacity	4Gb (512M x 8)	4Gb (512M x 8)	Same
Memory Organization	32Meg, x8bits, x4 banks x4 groups	32Meg, x8bits, x4 banks x4 groups	Same
Operating Power Supply	V_{DD} & V_{DDQ} = 1.2V (+/-0.06V) Vpp = +2.5V(-0.125V/+0.25V)	V_{DD} & V_{DDQ} = 1.2V (+/-0.06V) Vpp = +2.5V(-0.125V/+0.25V)	Same
Operating Temperature	Industrial (-40°C to 95°C)	Industrial (-40°C to 95°C)	Same
Clock Frequency(MHz)	Max 1200	Max 1333, also supports 1200	Alliance better
Data Rate (MT/s)	Max 2400	Max 2666, also supports 2400	Alliance better
CAS Latency	16	19, also supports 16	Alliance better
tRCD & tRP (ns)	13.32	14.25, also support 13.32	Alliance better
Average Refresh Period	7.8uS at -40C ~ +85C 3.9uS at +85C to +95C	7.8uS at -40C ~ +85C 3.9uS at +85C to +95C	Same
I/O Capacitance (C_{IO})	1.15pf	1.15pf	Same
Pin to Pin Compatible	Pin to Pin Compatible		Same
AC/DC Characteristics	Same	Same	Meet JEDEC
IDD Specification			
I_{DD0} (mA)	56	77	Micron better
I_{DD1} (mA)	73	84	Micron better
I_{DD2P} (mA)	22	36	Micron better
I_{DD2Q} (mA)	36	52	Micron better
I_{DD2N} (mA)	41	55	Micron better
I_{DD3P} (mA)	33	45	Micron better
I_{DD3N} (mA)	57	88	Micron better
I_{DD4R} (mA)	157	128	Alliance better
I_{DD4W} (mA)	130	146	Micron better
I_{DD6N} (mA)	24	28	Micron better
I_{DD6R} (mA)	25	25	same
I_{DD6A} (mA)	47	32	Alliance better
I_{DD7} (mA)	211	179	Alliance better
Package 78b FBGA	9.0mm x 10.5mm x 1.2mm	7.5mm x 11mm x 1.2mm	Alliance smaller
Package Material	Pb and Halogen Free	Pb and Halogen Free	Same