

AS4C32M16MSA-6BIN vs AS4C32M16MSB-6BIN Comparison

Part Number & result Parameter	AS4C32M16MSA-6BIN (rev.A)	AS4C32M16MSB-6BIN (rev.B)	Comparison Result
Product Description	Low Power SDRAM	Low Power SDRAM	Same
Fab Process Technology	63nm	45nm	Different IPs
Capacity	512Mb (32M x 16)	512Mb (32M x 16)	Same
Memory Organization	8M, x16 bits, x4 banks	8M, x16 bits, x4 banks	Same
Operating Power Supply	VDD/Q = 1.7V ~1.95V	VDD/Q = 1.7V ~1.95V	Same
Operating Temperature	Industrial (-40°C to 85°C)	Industrial (-40°C to 85°C)	Same
Max. Clock Frequency	166MHz	166MHz	Same
Clock Cycle time "tCK" (ns)	6	6	Same
CAS Latency	1, 2 & 3	2 & 3	Comparable
Burst Length	1,2,4,8 & full page	1,2,4,8 & full page	Same
tRCD & tRP (ns)	18	18	Same
Row Address	A0-A12	A0-A12	Same
Column Address	A0-A9	A0-A9	Same
Average Refresh Period	4096 cycles/64ms	4096 cycles/64ms	Same
I/O Capacitance	CIO: 4pf to 6pf	CIO: 3.5pf to 4.5pf	Comparable
Pin to Pin Compatible	Pin to Pin Compatible		Same
AC/DC Characteristics	Same	Same	Meet JEDEC
IDD Specification			
IDD Spec conditions	-40C ≤ Ta ≤ 85C VDD/Q = 1.7V~1.95V	-40C ≤ Ta ≤ 85C VDD/Q = 1.7V~1.95V	
I _{DD1} (mA)	80	40	Rev B better
I _{DD2P} (uA)	300	300	Same
I _{DD2N} (mA)	15	10	Rev B better
I _{DD3P} (mA)	5	3	Rev B better
I _{DD3N} (mA)	15	15	Same
I _{DD4} (mA)	100	70	Rev B better
I _{DD5} (mA)	110	70	Rev B better
I _{DD6} (uA)	700	700	Same
I _{DD7} (uA)	10	10	Same
Package	54b FBGA (8x8mm), 0.8mm pitch	54b FBGA (8x8mm), 0.8mm pitch	Same
Package Material	Pb & Halogen Free	Pb & Halogen Free	Same