

AS4C4M32MSA-6BIN vs AS4C8M32MSB-6BIN Comparison

Part Number & result Parameter	AS4C4M32MSA-6BIN (128Mb)	AS4C8M32MSB-6BIN (256Mb)	Comparison Result
Product Description	Low Power SDRAM	Low Power SDRAM	Same
Fab/Process Technology	PSMC/63nm	PSMC/65nm	Different Line
Capacity	128Mb (4M x 32)	256Mb (8M x 32)	Double Density
Memory Organization	1M, x32 bits, x4 banks	2M, x32 bits, x4 banks	Double Memory
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	Comparable
Clock Cycle time "tCK" (ns)	6	6	Same
CAS Latency	1, 2 & 3	2 & 3	Different
Burst Length	1,2,4,8 & full page	1,2,4,8 & full page	Same
tRCD & tRP (ns)	18	18	Same
Row Address	A0-A11	A0-A11	Same
Column Address	A0-A7	A0-A8	Additional Col.Addr
Average Refresh Period	4096 cycles/64ms	8192 cycles/64ms	Different
I/O Capacitance	CIO: 4pf to 6pf	CIO: 4pf to 6pf	Same
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	
IDD1 (mA)	60	38	256Mb better
IDD2P (mA)	0.20	0.4	Comparable
IDD2N (mA)	15	10	256Mb better
IDD3P (mA)	2	3	Comparable
IDD3N (mA)	20	20	Same
IDD4 (mA)	80	75	256Mb better
IDD5 (mA)	100	50	256Mb better
IDD6 (uA)	250	400	256Mb higher
IDD7 (uA)	10	10	Same
Package	90b FBGA (8x13mm)	90b FBGA (8x13mm)	Same
Package Material	Pb & Halogen Free	Pb & Halogen Free	Same

Pinout Comparison between 128Mb & 256Mb LPSDRAM

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