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

AS4C256M16D3C-12BIN vs AS4C256M16D3D-10BIN Comparison

Part Number & result / Parameter	AS4C256M16D3C-12BIN	AS4C256M16D3D-10BIN	Comparison Result
Product Description	DDR3 SDRAM	DDR3 SDRAM	Same
Fab / Technology/Rev	PSMC / 25nm/ RevC	PSMC / 25nm / RevD	Different Design IPs
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} = 1.5V (+/-0.075V)	Same
Operating Temperature	Industrial (-40°C ≤ Tc ≤ 95°C)	Industrial (-40°C ≤ Tc ≤ 95°C)	Same
Clock Frequency (Max)	800MHz	933MHz, 800MHz	Rev.D better
Data Rate (Max)	1600MT/s	1866MT/s, 1600MHz	Rev.D better
CAS Latency	11	13, 11	Rev.D better
tRCD & tRP (ns)	13.75	13.91, 13.75	Rev.D better
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	2.2pf, 2.3pf	Same
Pin to Pin Compatible	Pin to Pin Compatible		Same
AC/DC Characteristics	Same	Same	Meet JEDEC
IDD Specification			
IDD Spec conditions	-40C to 95C (-12)	-40C to 95C (-12)	Same
I_{DD0} (mA)	57	156	Different
I_{DD1} (mA)	81	182	Different
I_{DD2P0} (mA)	8	56	Different
I_{DD2P1} (mA)	14	84	Different
I_{DD2N} (mA)	24	128	Different
I_{DD2Q} (mA)	24	119	Different
I_{DD3P} (mA)	26	119	Different
I_{DD3N} (mA)	38	165	Different
I_{DD4R} (mA)	155	286	Different
I_{DD4W} (mA)	155	286	Different
I_{DD5B} (mA)	235	260	Different
I_{DD6} (mA)	12	40	Different
I_{DD7} (mA)	190	364	Different
I_{DD8} (mA)	10	42	Different
Package 96b FBGA	(7.5mm x 13.5mm x 1.2mm) Ball Array (mm): 12x 6.4 x 0.8	(7.5mm x 13mm x 1.0mm) Ball Array (mm): 12x 6.4 x 0.8	Comparable
Package Material	Pb and Halogen Free	Pb and Halogen Free	Same