



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

AS4C128M16D3A-12BIN vs AS4C128M16D3C-93BIN Comparison

Part Number & result Parameter	AS4C128M16D3A -12BIN/TR	AS4C128M16D3C-93BIN/TR
Product Description	DDR3 SDRAM	
Process Technology	30nm	25nm
Capacity	2Gb (128M x 16)	
Memory Org.	16M words, x16 bits, x8 banks	
Operating Power Supply	$V_{DD} \& V_{DDQ} = 1.5V (+/-0.075V)$	
Operating Temperature	Industrial ($T_c = -40^{\circ}C$ to $95^{\circ}C$)	Industrial ($T_c = -40^{\circ}C$ to $95^{\circ}C$)
Clock Frequency (Max)	800MHz	1066MHz Also support 800MHz
Data Rate (MT/s)	1600	2133 for 1066MHz 1600 for 800MHz
CAS Latency	11	14 for 1066MHz 11 for 800MHz
tRCD & tRP (ns)	13.75	13.09 for 1066MHz 13.75 for 800MHz
Average Refresh Period	7.8 μs at $-40^{\circ}C \leq T_c \leq +85^{\circ}C$ 3.9 μs @ $+85^{\circ}C \leq T_c \leq +95^{\circ}C$	7.8 μs at $-40^{\circ}C \leq T_c \leq +85^{\circ}C$ 3.9 μs @ $+85^{\circ}C \leq T_c \leq +95^{\circ}C$
I/O Capacitance	Comparable	
Pin Compatibility	Pin to Pin Compatible	
AC/DC Characteristics	Comparable	
IDD Spec conditions	-40C to 95C @ 800Mhz	-40C to 95C @ 1066Mhz
I_{DD0} (mA)	70	85
I_{DD1} (mA)	80	95
I_{DD2P0} (mA)	15	21
I_{DD2P1} (mA)	22	33
I_{DD2N/2Q} (mA)	35	50
I_{DD3P} (mA)	35	50
I_{DD3N} (mA)	53	63
I_{DD4R} (mA)	155	185
I_{DD4W} (mA)	160	190
I_{DD5B} (mA)	145	165
I_{DD6} (mA)	12	20
I_{DD6ET} (mA)	17	25
I_{DD7} (mA)	240	280
I_{DD8} (mA)	14	19
Package 96b FBGA	8 x 13 x 1.0mm Ball Array: 12 x 6.4 x 0.8mm	7.5 x 13 x 1.0mm Ball Array: 12 x 6.4 x 0.8mm