

AS4C128M16D3LA-12BAN vs AS4C128M16D3LC-12BAN Comparison

Part Number & result Parameter	AS4C128M16D3LA -12BAN/TR	AS4C128M16D3LC-12BAN/TR	Com
Product Description	DDR3L SDRAM, Automotive Grade AEC-Q100 Compliance		same
Process Technology	30nm	25nm	Different
Capacity	2Gb (128M x 16)		same
Memory Org.	16M words, x16 bits, x8 banks		same
Operating Power Supply	V _{DD} & V _{DDQ} = 1.35V(1.283V to 1.45V)		same
DDR3 Compatibility	Backward Compatible to DDR3 SDRAM (1.5V +/-0.075)		same
Operating Temperature	Automotive (Tc = -40°C to 105°C)	Automotive (Tc = -40°C to 105°C)	same
Clock Frequency	800MHz	800MHz	same
Data Rate (MT/s)	1600	1600	same
CAS Latency	11	11	same
tRCD & tRP (ns)	13.75	13.75	same
Average Refresh Period	7.8μs at -40°C ≤ Tc ≤ +85°C 3.9us at +85°C ≤ TC ≤ +95°C 1.95us at +95°C ≤ TC ≤ +105°C	7.8μs at -40°C ≤ Tc ≤ +85°C 3.9us at +85°C ≤ TC ≤ +95°C 1.95us at +95°C ≤ TC ≤ +105°C	same
I/O Capacitance	CIO = 2.2pf (Max)	CIO = 2.2pf (Max)	same
Pin Compatibility	Pin to Pin Compatible		same
AC/DC Characteristics	Same		same
IDD Spec conditions	-40°C to 105°C	-40°C to 105°C	same
I _{DD0} (mA)	81	84	Comparable
I _{DD1} (mA)	92	96	Comparable
I _{DD2P0} (mA)	15	18	Comparable
I _{DD2P1} (mA)	24	27	Comparable
I _{DD2N/2Q} (mA)	39	42	Comparable
I _{DD3P} (mA)	39	42	Comparable
I _{DD3N} (mA)	54	66	Comparable
I _{DD4R} (mA)	180	186	Comparable
I _{DD4W} (mA)	186	192	Comparable
I _{DD5B} (mA)	162	174	Comparable
I _{DD6} (mA)	28	40	Comparable
I _{DD7} (mA)	264	288	Comparable
I _{DD8} (mA)	16	17	Comparable
Package 96b FBGA	8 x 13 x 1.0mm BallArray: 12 x 6.4 x 0.8mm	7.5 x 13 x 1.0mm BallArray: 12 x 6.4 x 0.8mm	RevC smaller, but same foot print