

AS4C256M32MD4-062BAN vs K4F8E304HB-MGCJ Comparison

Part Number & result Parameter	AS4C256M32MD4-062BAN	K4F8E304HB-MGCJ	Comparison Result
Product Description	LPDDR4 SDRAM with ECC	LPDDR4 SDRAM	Alliance better
Density	8Gb	8Gb	Same
Memory Organization	32Mb x 16DQs x 8 banks x2 Channels	32Mb x 16DQs x 8 banks x2 Channels	Same
Channel Density	4Gb per Channel	4Gb per Channel	Same
Bank Address	BA0-BA2	BA0-BA2	Same
Row / Column Address	R0-R14 / C0-C9	R0-R14 / C0-C9	Same
Page Size	2KB	2KB	Same
Operating Power Supply	VDD1/2/Q = 1.8v/1.1v/1.1v	VDD1/2/Q = 1.8v/1.1v/1.1v	Same
Operating Temperature	-40°C to 105°C A2 Automotive	-25°C to 85°C	Alliance Better
Max. Clock Frequency	1600Mhz	1866MHz	Samsung better
Max Data Rate (MT/s)	3200 Mbps	3733 Mbps	Samsung better
tREFI	3.904us	3.9us	Comparable
I/O Capacitance	CIO :1.3pF Max	CIO : 2.2pF Max	Comparable
Pin to Pin Compatible	Pin to Pin Compatible with additional pin for ECC in Alliance		Alliance Better
AC/DC Characteristics	Same	Same	Meet JEDEC
IDD Specification (VDD1 / VDD2 / VDDQ) – Speeds and Temperature range different			
I_{DD0} (mA)	36/158/1	40/75/1.2	
I_{DD2P/S} (mA)	2.4/5/0.6	1.5/3.5/1.2	
I_{DD2N} (mA)	3/70/0.6	3.5/30/1.2	
I_{DD2NS} (mA)	3/50/0.6	3.5/25/1.2	
I_{DD3P/S} (mA)	3/30/0.6	2.5/15/1.2	
I_{DD3N} (mA)	4/90/1	4/36/1.2	
I_{DD3NS} (mA)	4/90/1	4/30/1.2	
I_{DD4R} (mA)	4/600/360	6.8/290/410	
I_{DD4W} (mA)	4/480/4	4.5/310/130	
I_{DD5} (mA)	100/240/1	150/180/1.2	
I_{DD5AB/PB} (mA)	20/106/1	9/40/1.2	
I_{DD6} (mA)	14/25/1	8/10/0.8	
Package 200b FBGA	10 x 14.5 x 1.1mm	10 x 15 x 1.0mm	Comparable.
Package Material	Pb and Halogen Free	Pb and Halogen Free	Same
ECC (Error Correction Code)	On-Chip ECC Single-bit error correction	No ECC	Alliance better