

SK hynix DRAM Module

For Enterprise & Hyperscale Computing

SK hynix offers high-density (8-256GB) RDIMM, LRDIMM and ECC-DIMM modules specialized to process Big Data. Notably, our 256GB RDIMM and LRDIMM based on the 1ynm 16Gb DDR4 support stable data transfers at 3,200Mbps with 10W of power, the industry's lowest. As a leading DRAM maker, SK hynix will continue to deliver value on the next-generation DDR5 standard with a complete lineup of advanced modules.

SK hynix's world-first DDR5 will complement our full lineup of DDR4-based server DRAM modules with substantial performance and reliability improvements enabled with lower power consumption.

Common Features

Mode	DDR4	DDR5
VDD/VDDQ	1.2v	1.1v
VPP	2.5v	1.8v
Data Rate	1600-3200 Mbps	3200-6400 Mbps
Channel Configuration	1 Channel x64	2 Channel x32
Bank Group & Bank	4 Groups & 16 Banks	8 Groups & 32 Banks
Refresh	All-Bank Refresh	All-Bank Refresh / Same Bank Refresh
RAS		In-DRAM ECC, Bounded Failure Design

* DDR5 will be qualified by Feb. '22.

Contact

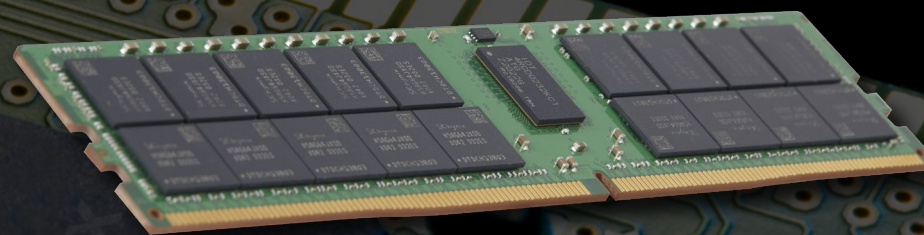
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B-D5/4/DIM-E01-210427-R02



DDR4 RDIMM

RDIMMs are the mainstream choice for a wide range of servers, offering greater performance and reliability than client-use UDIMM/SODIMM and up to 256GB of ultra-high density for more robust systems.



Technical Specification

Part Number	HMAG68CW MRX086N	HMAG78DXNRX085N	HMAG84AXNRX095N	HMAG94AXNRX093N	HMAT04AWRRX116N	HMAT14JXSRB120N
	HMAG68CW MRX084N	HMAG78DXNRX086N	HMAG84DXNRX084N	HMAG94CXNRX095N		
Module Density	8GB	16GB	32GB	64GB	128GB	256GB
Configuration	1GX72	2GX72	4GX72	8GX72	16GX72	32GX72
Device Type	DDR4 SDRAM	DDR4 SDRAM	DDR4 SDRAM	DDR4 SDRAM	DDR4 SDRAM	DDR4 SDRAM
Module Type	Registered DIMM	Registered DIMM	Registered DIMM	Registered DIMM	Registered DIMM	Registered DIMM
Package Type	FCBGA	FCBGA	FCBGA	FCBGA	3DS 2Hi FCBGA	3DS 4Hi FCBGA
Package Material	Lead & Halogen Free	Lead & Halogen Free	Lead & Halogen Free	Lead & Halogen Free	Lead & Halogen Free	Lead & Halogen Free
Data Rate	2933-3200Mbps	2933-3200Mbps	2933-3200Mbps	2933-3200Mbps	2933-3200Mbps	2933-3200Mbps
Data Width	x72 (ECC)	x72 (ECC)	x72 (ECC)	x72 (ECC)	x72 (ECC)	x72 (ECC)

Contact

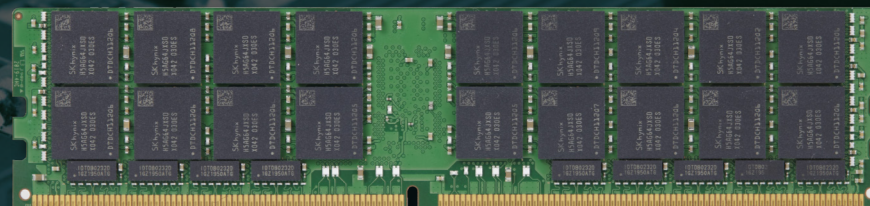
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DDR4 LRDIMM

LRDIMM uses die-stacking and data buffers for a more stable high-density memory, with capacity options from mainstream 64GB to extra-high 256GB all designed to be strong and reliable for performance-heavy servers.



Technical Specification

Part Number	HMAG94CWMLX087N	HMAT04AXNLX124N	HMAT14JXSLB126N
	HMAG94CWMLX088N		
Module Density	64GB	128GB	256GB
Configuration	8GX72	16GX72	32GX72
Device Type	DDR4 SDRAM	DDR4 SDRAM	DDR4 SDRAM
Module Type	Load Reduced DIMM	Load Reduced DIMM	Load Reduced DIMM
Package Type	Wire-bonding DDP FBGA	Wire-bonding DDP FBGA	Wire-bonding DDP FBGA
Package Material	Lead & Halogen Free	Lead & Halogen Free	Lead & Halogen Free
Data Rate	2933-3200Mbps	2933-3200Mbps	2933-3200Mbps
Data Width	x72 (ECC)	x72 (ECC)	x72 (ECC)

Contact

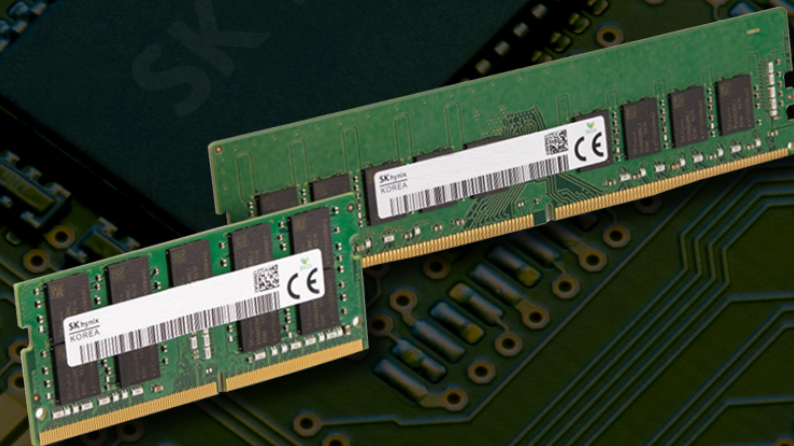
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DDR4 ECC-DIMM

ECC-DIMM adds on-board Error Correcting Code (ECC) to client-use UDIMM/SODIMM for error correction and greater reliability in various servers and workstations.



Technical Specification

Part Number	HMAG68DWMAX075N	HMAG78DWMAX075N	HMAG88AWMAX105N	HMAG68CVKEX077N	HMAG78CVKEX077N	HMAG88AXNEX106N
Module Density	8GB	16GB	32GB	8GB	16GB	32GB
Configuration	1GX72	2GX72	4GX72	1GX72	2GX72	4GX72
Device Type	DDR4 SDRAM	DDR4 SDRAM	DDR4 SDRAM	DDR4 SDRAM	DDR4 SDRAM	DDR4 SDRAM
Module Type	Small Outlined DIMM	Small Outlined DIMM	Small Outlined DIMM	Unbuffered DIMM	Unbuffered DIMM	Unbuffered DIMM
Package Type	FCBGA	FCBGA	FCBGA	FCBGA	FCBGA	FCBGA
Package Material	Lead & Halogen Free	Lead & Halogen Free	Lead & Halogen Free	Lead & Halogen Free	Lead & Halogen Free	Lead & Halogen Free
Data Rate	2933-3200Mbps	2933-3200Mbps	2933-3200Mbps	2933-3200Mbps	2933-3200Mbps	2933-3200Mbps
Data Width	x72 (ECC)	x72 (ECC)	x72 (ECC)	x72 (ECC)	x72 (ECC)	x72 (ECC)

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DDR5 RDIMM

DDR5 RDIMM succeeds the mainstream DDR4 RDIMM with jumps in performance and reliability and is designed to be compatible with Intel Sapphire Rapids and AMD Genoa.



Technical Specification

Part Number	HMCG78MEBRA110N	HMCG88MEBRA110N	HMCG94MEBRA108N
Module Density	16GB	32GB	64GB
Configuration	2GX80	4GX80	8GX80
Device Type	DDR5 SDRAM	DDR5 SDRAM	DDR5 SDRAM
Module Type	Registered DIMM	Registered DIMM	Registered DIMM
Package Type	FCBGA	FCBGA	FCBGA
Package Material	Lead & Halogen Free	Lead & Halogen Free	Lead & Halogen Free
Data Rate	4800-5600Mbps	4800-5600Mbps	4800-5600Mbps
Data Width	x80 (ECC)	x80 (ECC)	x80 (ECC)

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