

Memory Module Specifications

KSM29RD4/64HAR

64GB 2Rx4 8G x 72-Bit PC4-2933

CL21 Registered w/Parity 288-Pin DIMM

DESCRIPTION

Kingston's KSM29RD4/64HAR is a 8G x 72-bit (64GB) DDR4-2933 CL21 SDRAM (Synchronous DRAM) registered w/ parity, 2Rx4, ECC, memory module, based on thirty-six 4G x 4-bit FBGA components. The SPD is programmed to JEDEC standard latency DDR4-2933 timing of 21-21-21 at 1.2V. Each 288-pin DIMM uses gold contact fingers. The electrical and mechanical specifications are as follows:

FEATURES

- Power Supply: VDD = 1.2V
- VDDQ = 1.2V
- VPP = 2.5V
- VDDSPD = 2.41V to 2.75V
- Functionality and operations comply with the DDR4 SDRAM datasheet
- 16 internal banks
- Bank Grouping is applied, and CAS to CAS latency (tCCD_L, tCCD_S) for the banks in the same or different bank group accesses are available
- Data transfer rates: PC4-2933, PC4-2666, PC4-2400, PC4-2133, PC4-1866, PC4-1600
- Bi-Directional Differential Data Strobe
- 8 bit pre-fetch
- Burst Length (BL) switch on-the-fly BL8 or BC4(Burst Chop)
- Supports ECC error correction and detection
- On-Die Termination (ODT)
- Temperature sensor with integrated SPD
- This product is in compliance with the RoHS directive.
- Per DRAM Addressability is supported
- Internal Vref DQ level generation is available
- Write CRC is supported at all speed grades
- CA parity (Command/Address Parity) mode is supported

SPECIFICATIONS

CL(IDD)	21 cycles
Row Cycle Time (tRCmin)	46.32ns(min.)
Refresh to Active/Refresh Command Time (tRFCmin)	350ns(min.)
Row Active Time (tRASmin)	32ns(min.)
Maximum Operating Power	*
UL Rating	94 V - 0
Operating Temperature	0° C to +85° C
Storage Temperature	-55° C to +100° C

*See IDD Specifications (page 2)

Module Assembly

DRAM: HYNIX (A-DIE)

RCD: Rambus

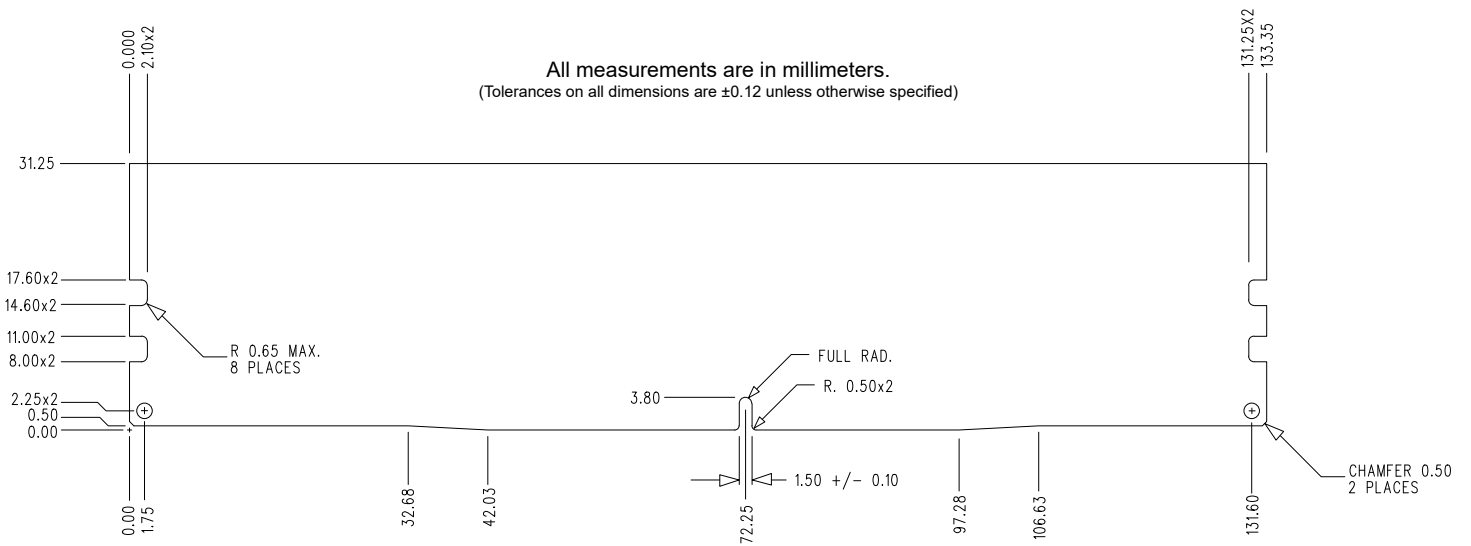
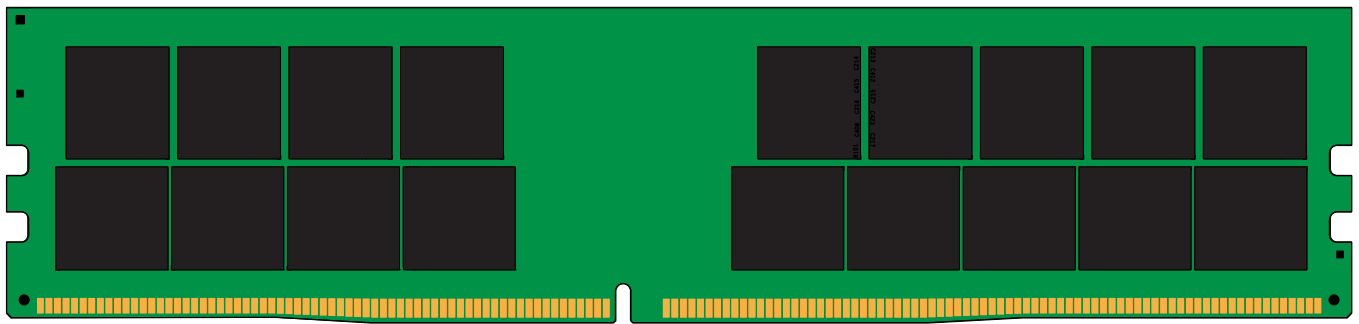
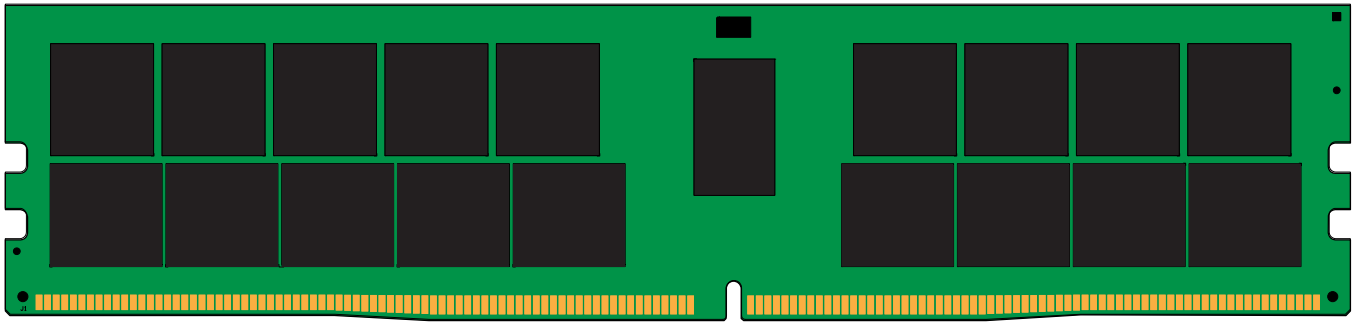
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IDD Specifications

IDD		unit
Symbol	2933	
IDD0	1902	mA
IDD0A	1904	mA
IDD1	2068	mA
IDD1A	2130	mA
IDD2N	1762	mA
IDD2NA	1764	mA
IDD2NT	1941	mA
IDD2NL	1345	mA
IDD2NG	1758	mA
IDD2ND	1715	mA
IDD2NP	1802	mA
IDD2P	1169	mA
IDD2Q	1660	mA
IDD3N	2227	mA
IDD3NA	2227	mA
IDD3P	1678	mA
IDD4R	3130	mA
IDD4RA	3169	mA
IDD4RB	3128	mA
IDD4W	2882	mA
IDD4WA	2970	mA
IDD4WB	2773	mA
IDD4WC	2886	mA
IDD4WP	3486	mA
IDD5B	8182	mA
IDD5F2	6073	mA
IDD5F4	5314	mA
IDD6N	1196	mA
IDD6E	1776	mA
IDD6R	694	mA
IDD6A	1776	mA
IDD7	4084	mA
IDD8	530	mA

IPP		unit
Symbol	2933	
IPP0	62	mA
IPP1	62	mA
IPP2N	48	mA
IPP2P	48	mA
IPP3N	62	mA
IPP3P	62	mA
IPP4R	55	mA
IPP4W	55	mA
IPP5B	1189	mA
IPP5F2	797	mA
IPP5F4	659	mA
IPP6N	150	mA
IPP6E	255	mA
IPP6R	77	mA
IPP6A	217	mA
IPP7	214	mA
IPP8	48	mA

MODULE DIMENSIONS



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