

Memory Module Specifications

KSM29RD8/32HAR

32GB 2Rx8 4G x 72-Bit PC4-2933

CL21 Registered w/Parity 288-Pin DIMM

DESCRIPTION

Kingston's KSM29RD8/32HAR is a 4G x 72-bit (32GB) DDR4-2933 CL21 SDRAM (Synchronous DRAM) registered w/ parity, 2Rx8, ECC, memory module, based on eighteen 2G x 8-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 Table (page2)

Module Assembly

DRAM: HYNIX (A-DIE)
RCD: Rambus

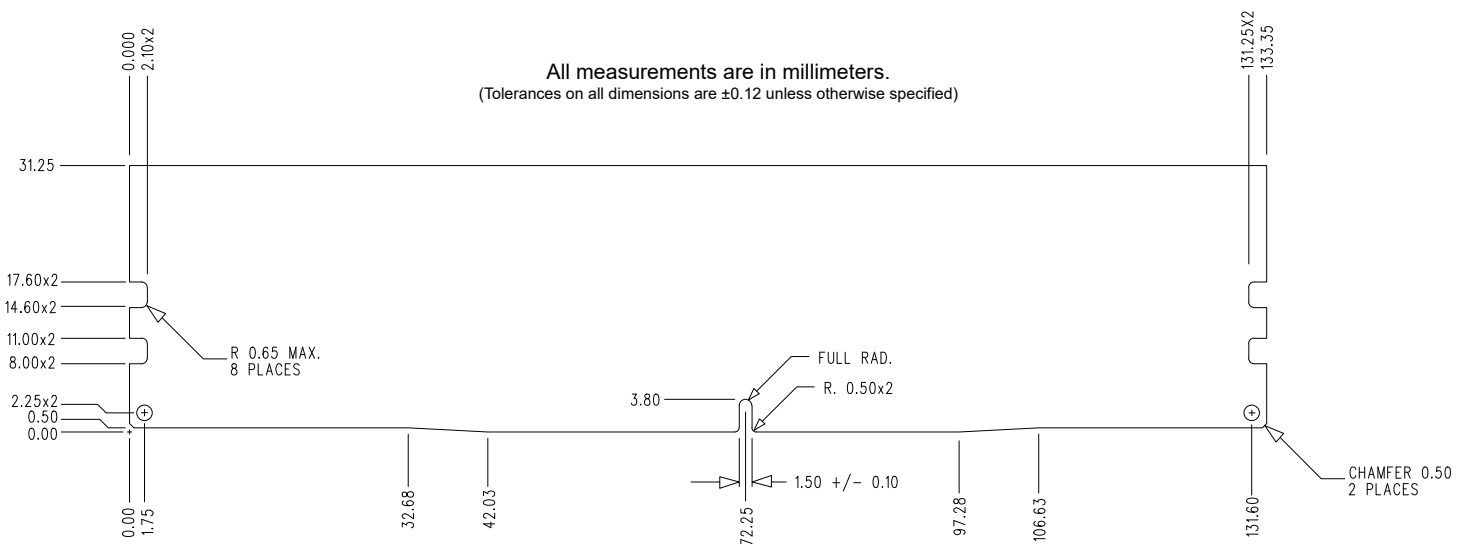
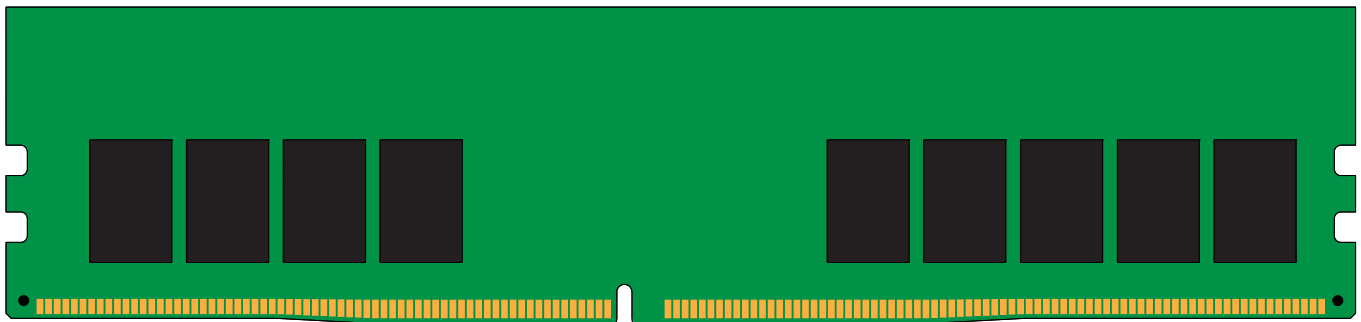
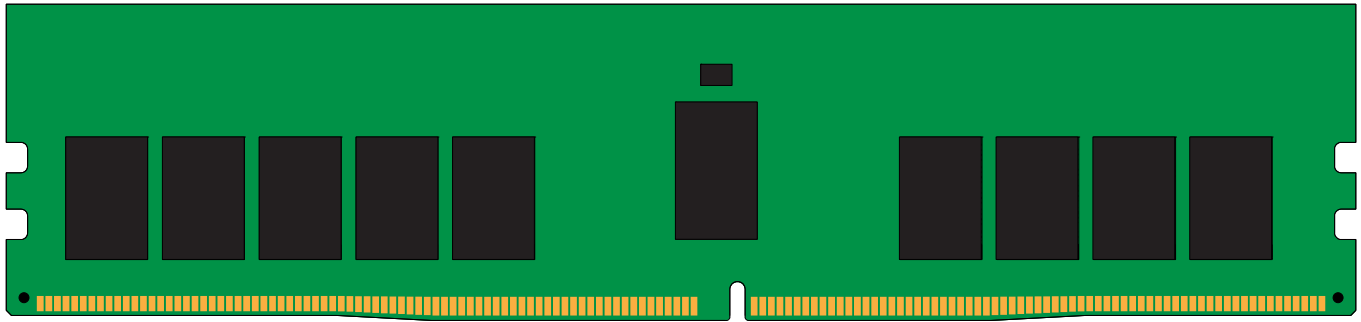
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IDD Specifications

IDD		unit
Symbol	2933	
IDD0	1167	mA
IDD0A	1169	mA
IDD1	1282	mA
IDD1A	1313	mA
IDD2N	1088	mA
IDD2NA	1089	mA
IDD2NT	1184	mA
IDD2NL	881	mA
IDD2NG	1077	mA
IDD2ND	1061	mA
IDD2NP	1108	mA
IDD2P	703	mA
IDD2Q	1030	mA
IDD3N	1414	mA
IDD3NA	1414	mA
IDD3P	1053	mA
IDD4R	2078	mA
IDD4RA	2089	mA
IDD4RB	2089	mA
IDD4W	1885	mA
IDD4WA	1929	mA
IDD4WB	1824	mA
IDD4WC	1877	mA
IDD4WP	2138	mA
IDD5B	4294	mA
IDD5F2	3244	mA
IDD5F4	2841	mA
IDD6N	597	mA
IDD6E	895	mA
IDD6R	341	mA
IDD6A	895	mA
IDD7	2075	mA
IDD8	258	mA

IPP		unit
Symbol	2933	
IPP0	31	mA
IPP1	31	mA
IPP2N	25	mA
IPP2P	25	mA
IPP3N	35	mA
IPP3P	35	mA
IPP4R	30	mA
IPP4W	30	mA
IPP5B	601	mA
IPP5F2	403	mA
IPP5F4	335	mA
IPP6N	76	mA
IPP6E	129	mA
IPP6R	39	mA
IPP6A	114	mA
IPP7	87	mA
IPP8	25	mA

MODULE DIMENSIONS



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