

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

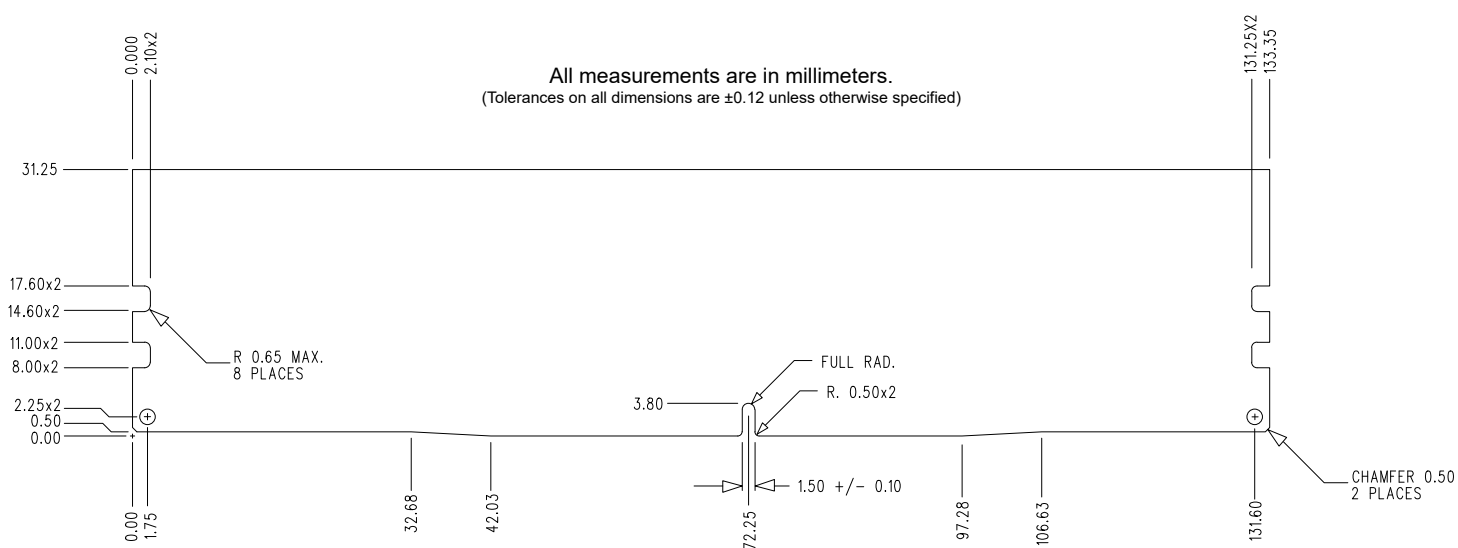
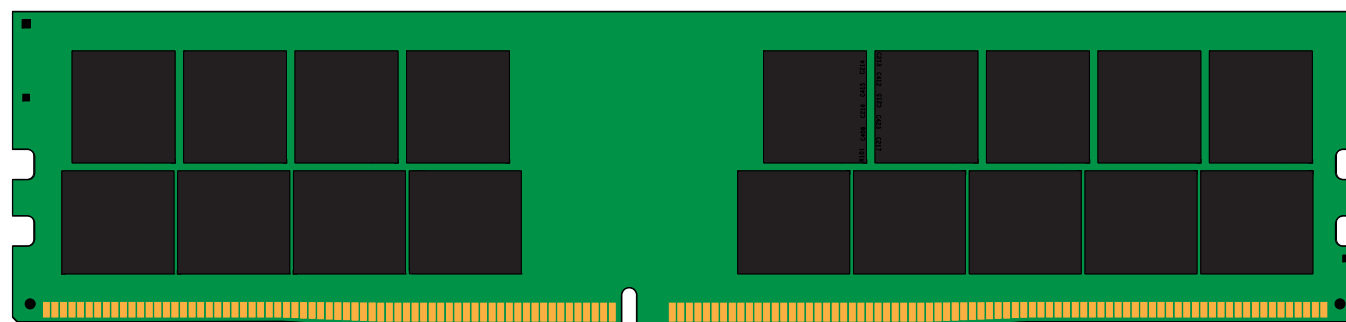
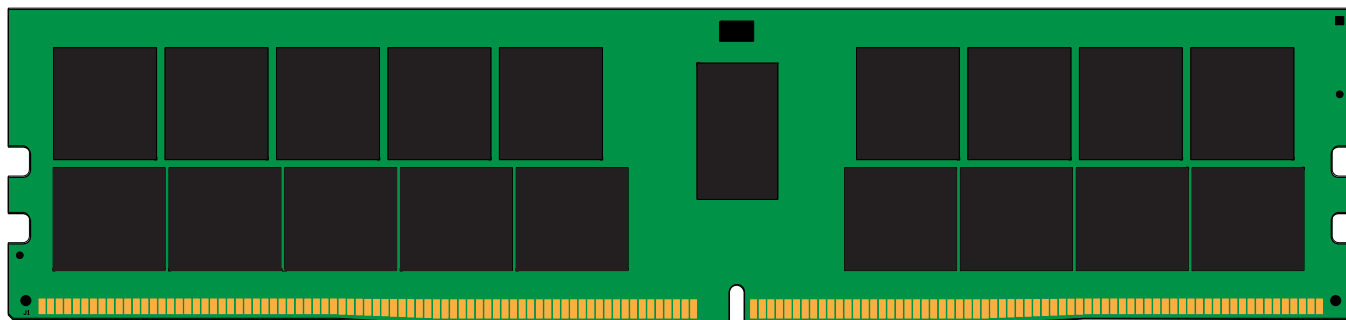
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IDD Specifications

IDD		unit
Symbol	2933	
IDD0	2164	mA
IDD0A	2164	mA
IDD1	2372	mA
IDD1A	2444	mA
IDD2N	2002	mA
IDD2NA	2002	mA
IDD2NT	2182	mA
IDD2NL	1606	mA
IDD2NG	1966	mA
IDD2ND	1894	mA
IDD2NP	2038	mA
IDD2P	1426	mA
IDD2Q	1858	mA
IDD3N	2290	mA
IDD3NA	2290	mA
IDD3P	1786	mA
IDD4R	3488	mA
IDD4RA	3596	mA
IDD4RB	3542	mA
IDD4W	3290	mA
IDD4WA	3380	mA
IDD4WB	3038	mA
IDD4WC	3254	mA
IDD4WP	3812	mA
IDD5B	6214	mA
IDD5F2	5242	mA
IDD5F4	4288	mA
IDD6N	1527	mA
IDD6E	2211	mA
IDD6R	951	mA
IDD6A	2211	mA
IDD7	4658	mA
IDD8	771	mA

IPP		unit
Symbol	2833	
IPP0	234	mA
IPP1	252	mA
IPP2N	216	mA
IPP2P	216	mA
IPP3N	504	mA
IPP3P	504	mA
IPP4R	360	mA
IPP4W	378	mA
IPP5B	1584	mA
IPP5F2	1242	mA
IPP5F4	900	mA
IPP6N	360	mA
IPP6E	540	mA
IPP6R	288	mA
IPP6A	432	mA
IPP7	432	mA
IPP8	216	mA

MODULE DIMENSIONS



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