

KSM29RS4/32HAR

32GB 1Rx4 4G x 72-Bit PC4-2933

CL21 Registered w/Parity 288-Pin DIMM

DESCRIPTION

Kingston's KSM29RS4/32HAR is a 4G x 72-bit (32GB) DDR4-2933 CL21 SDRAM (Synchronous DRAM) registered w/ parity, 1Rx4, ECC, memory module, based on eighteen 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

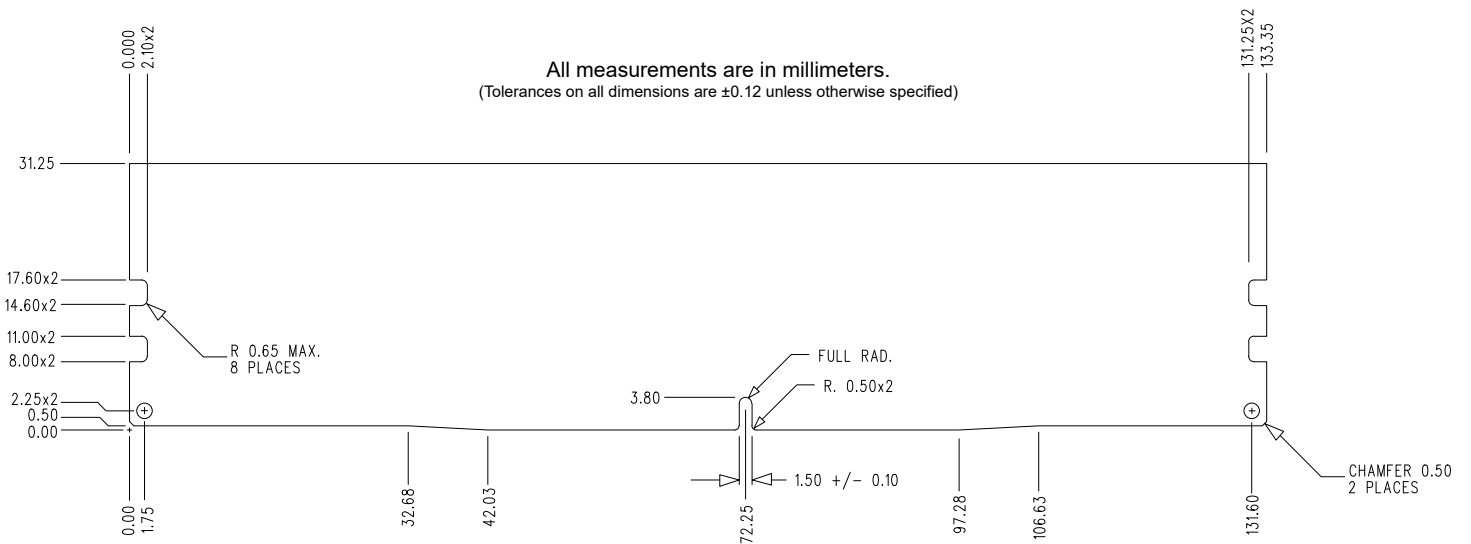
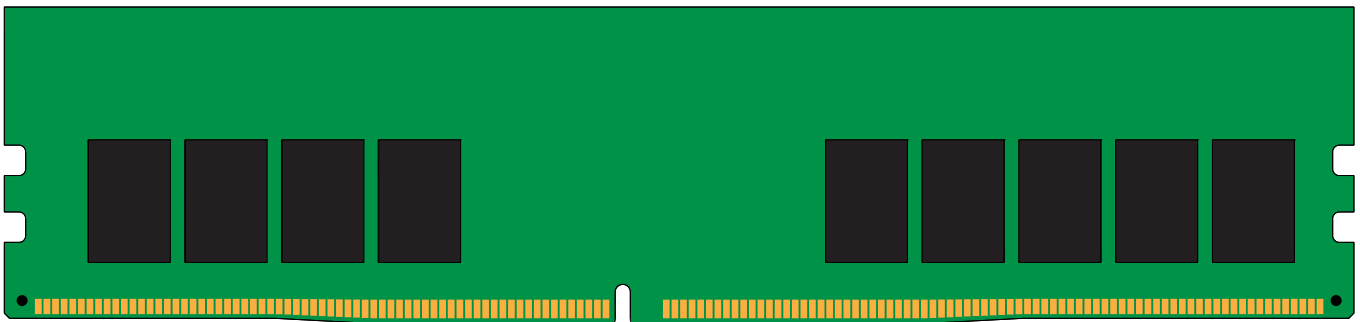
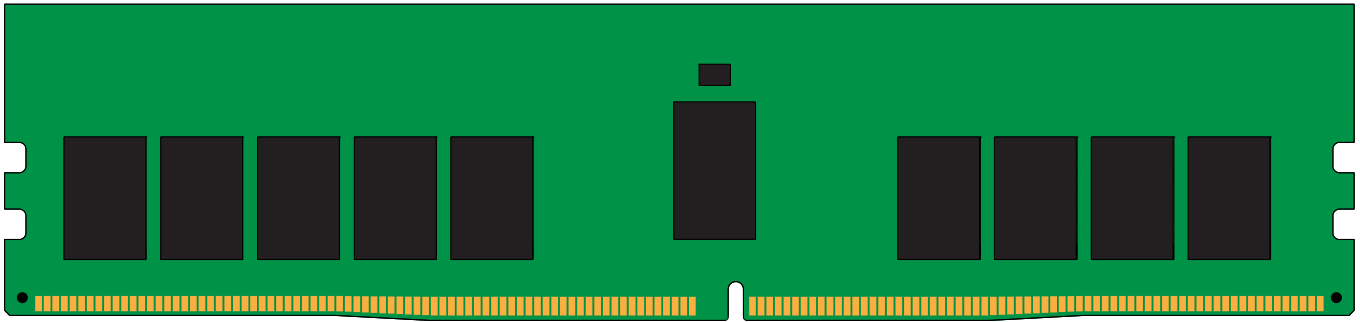
DRAM: HYNIX (A-DIE)
RCD: Rambus

IDD Specifications

IDD		unit
Symbol	2933	
IDD0	1237	mA
IDD0A	1237	mA
IDD1	1402	mA
IDD1A	1464	mA
IDD2N	1096	mA
IDD2NA	1097	mA
IDD2NT	1186	mA
IDD2NL	888	mA
IDD2NG	1094	mA
IDD2ND	1073	mA
IDD2NP	1116	mA
IDD2P	718	mA
IDD2Q	1045	mA
IDD3N	1330	mA
IDD3NA	1330	mA
IDD3P	974	mA
IDD4R	2467	mA
IDD4RA	2504	mA
IDD4RB	2464	mA
IDD4W	2218	mA
IDD4WA	2304	mA
IDD4WB	2109	mA
IDD4WC	2222	mA
IDD4WP	2821	mA
IDD5B	7522	mA
IDD5F2	5410	mA
IDD5F4	4651	mA
IDD6N	604	mA
IDD6E	894	mA
IDD6R	353	mA
IDD6A	894	mA
IDD7	3420	mA
IDD8	271	mA

IPP		unit
Symbol	2833	
IPP0	38	mA
IPP1	38	mA
IPP2N	24	mA
IPP2P	24	mA
IPP3N	31	mA
IPP3P	31	mA
IPP4R	31	mA
IPP4W	31	mA
IPP5B	1167	mA
IPP5F2	774	mA
IPP5F4	636	mA
IPP6N	75	mA
IPP6E	128	mA
IPP6R	39	mA
IPP6A	108	mA
IPP7	191	mA
IPP8	24	mA

MODULE DIMENSIONS



The product images shown are for illustration purposes only and may not be an exact representation of the product.
Kingston reserves the right to change any information at anytime without notice.