

# Memory Module Specifications

## KSM32RS8/8HDR

8GB 1Rx8 1G x 72-Bit PC4-3200

CL22 Registered w/Parity 288-Pin DIMM

### DESCRIPTION

Kingston's KSM32RS8/8HDR is a 1G x 72-bit (8GB) DDR4-3200 CL22 SDRAM (Synchronous DRAM) registered w/ parity, 1Rx8, ECC, memory module, based on nine 1G x 8-bit FBGA components. The SPD is programmed to JEDEC standard latency DDR4-3200 timing of 22-22-22 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: PC4-3200, 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)	22 cycles
Row Cycle Time (tRCmin)	45.75ns(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 (D-DIE)

**RCD:** Rambus

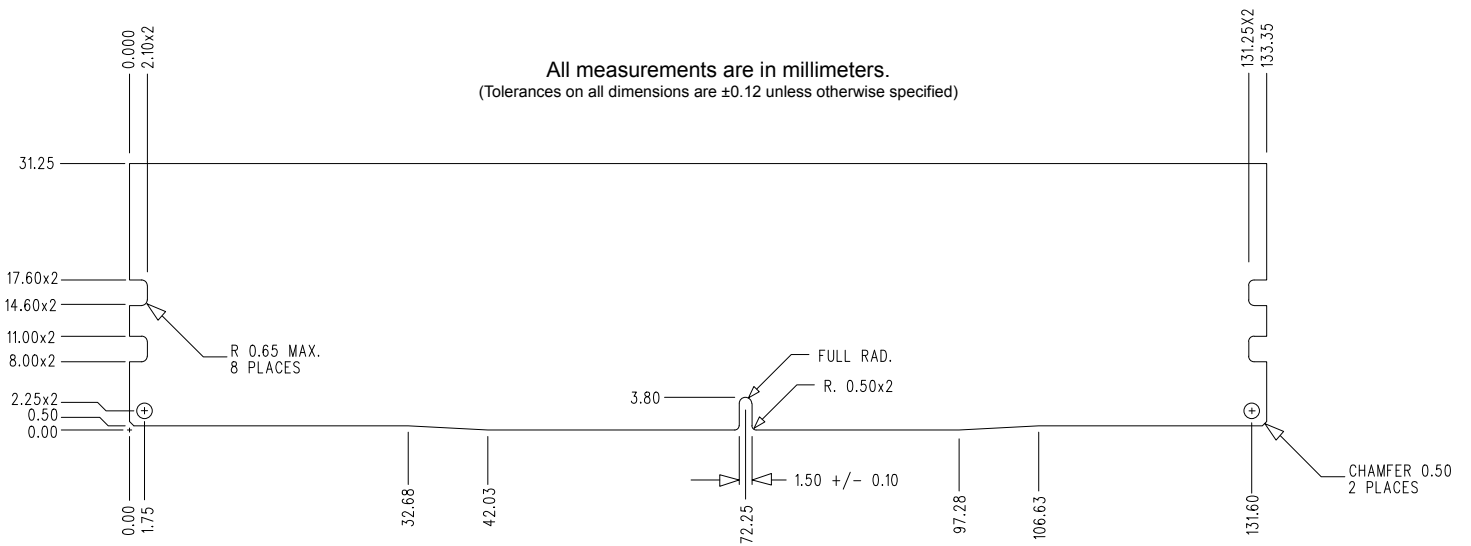
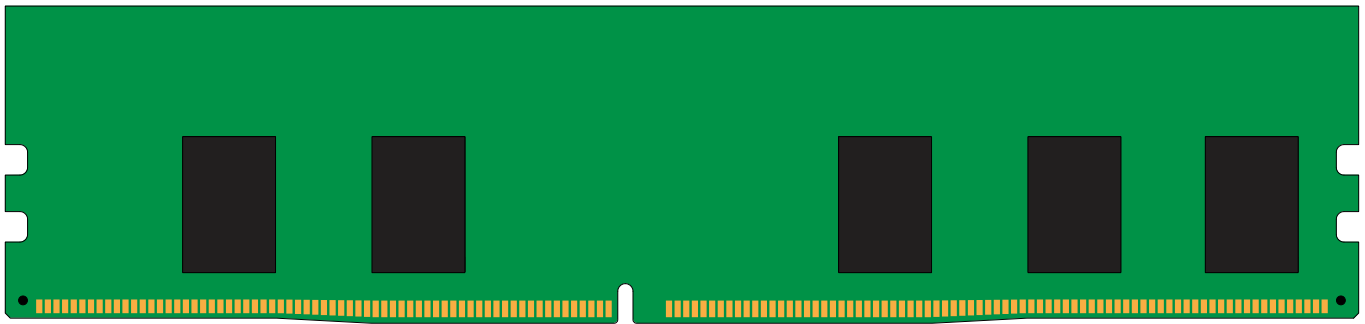
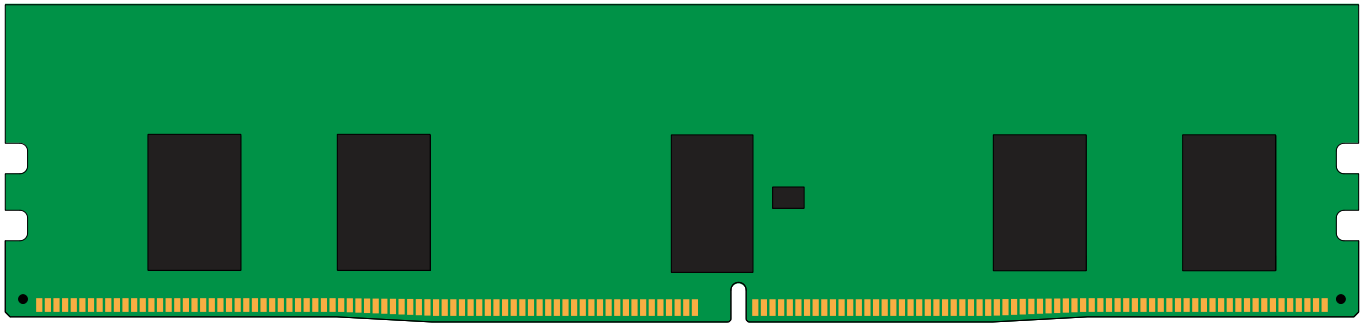
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## IDD Specifications

IDD		unit
Symbol	3200	
IDD0	787	mA
IDD0A	787	mA
IDD1	893	mA
IDD1A	919	mA
IDD2N	714	mA
IDD2NA	714	mA
IDD2NT	759	mA
IDD2NL	651	mA
IDD2NG	714	mA
IDD2ND	705	mA
IDD2NP	714	mA
IDD2P	478	mA
IDD2Q	669	mA
IDD3N	744	mA
IDD3NA	744	mA
IDD3P	512	mA
IDD4R	1558	mA
IDD4RA	1586	mA
IDD4RB	1575	mA
IDD4W	1544	mA
IDD4WA	1592	mA
IDD4WB	1487	mA
IDD4WC	1537	mA
IDD4WP	1752	mA
IDD5B	2235	mA
IDD5F2	1751	mA
IDD5F4	1600	mA
IDD6N	175	mA
IDD6E	239	mA
IDD6R	115	mA
IDD6A	239	mA
IDD7	1702	mA
IDD8	92	mA

IPP		unit
Symbol	3200	
IPP0	36	mA
IPP1	40	mA
IPP2N	21	mA
IPP2P	17	mA
IPP3N	100	mA
IPP3P	98	mA
IPP4R	129	mA
IPP4W	128	mA
IPP5B	489	mA
IPP5F2	324	mA
IPP5F4	265	mA
IPP6N	37	mA
IPP6E	52	mA
IPP6R	25	mA
IPP6A	51	mA
IPP7	142	mA
IPP8	18	mA

## MODULE DIMENSIONS



The product images shown are for illustration purposes only and may not be an exact representation of the product.  
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