

# Memory Module Specifications

## KSM32RD8/32HCR

32GB 2Rx8 4G x 72-Bit PC4-3200

CL22 Registered w/Parity 288-Pin DIMM

### DESCRIPTION

Kingston's KSM32RD8/32HCR is a 4G x 72-bit (32GB) DDR4-3200 CL22 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 DDR4-3200 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 Table (page2)

### Module Assembly

<b>DRAM:</b> HYNIX (C-DIE)
<b>RCD:</b> Rambus

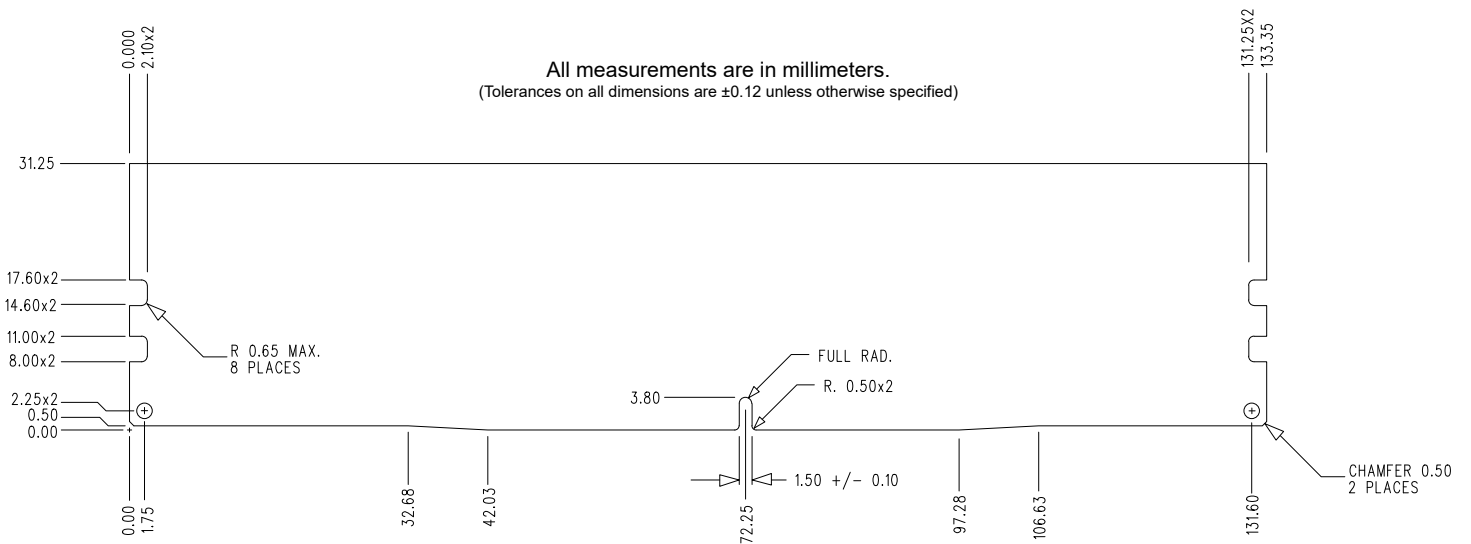
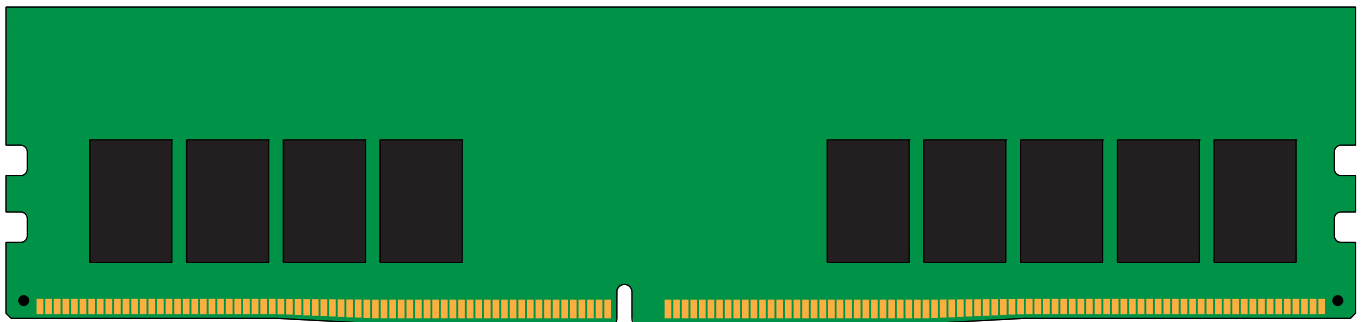
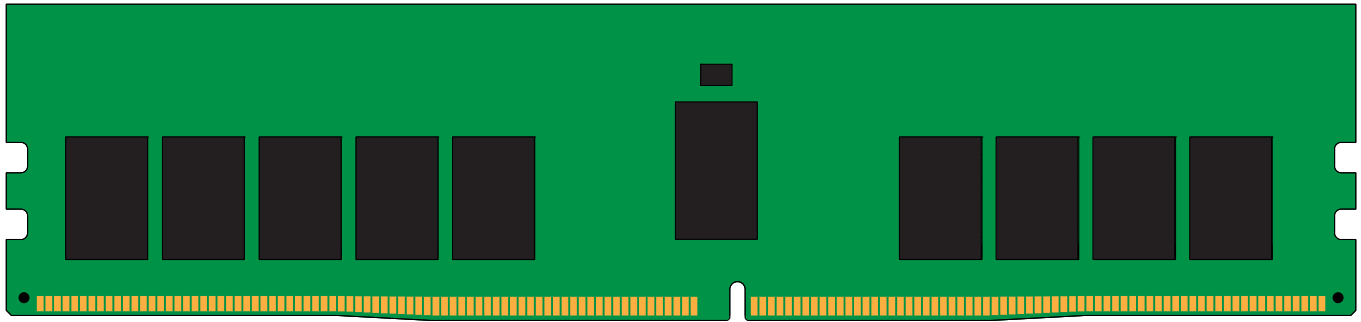
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## IDD Specifications

IDD		unit
Symbol	3200	
IDD0	1102	mA
IDD0A	1103	mA
IDD1	1208	mA
IDD1A	1240	mA
IDD2N	1014	mA
IDD2NA	1014	mA
IDD2NT	1088	mA
IDD2NL	860	mA
IDD2NG	1013	mA
IDD2ND	973	mA
IDD2NP	1029	mA
IDD2P	682	mA
IDD2Q	973	mA
IDD3N	1452	mA
IDD3NA	1452	mA
IDD3P	1142	mA
IDD4R	1925	mA
IDD4RA	1943	mA
IDD4RB	1936	mA
IDD4W	1882	mA
IDD4WA	1925	mA
IDD4WB	1812	mA
IDD4WC	1875	mA
IDD4WP	2106	mA
IDD5B	5500	mA
IDD5F2	4025	mA
IDD5F4	3465	mA
IDD6N	702	mA
IDD6E	1108	mA
IDD6R	315	mA
IDD6A	1176	mA
IDD7	2109	mA
IDD8	202	mA

IPP		unit
Symbol	3200	
IPP0	29	mA
IPP1	33	mA
IPP2N	16	mA
IPP2P	16	mA
IPP3N	19	mA
IPP3P	19	mA
IPP4R	53	mA
IPP4W	53	mA
IPP5B	491	mA
IPP5F2	323	mA
IPP5F4	269	mA
IPP6N	65	mA
IPP6E	115	mA
IPP6R	28	mA
IPP6A	101	mA
IPP7	139	mA
IPP8	16	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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