

# Memory Module Specifications

## KSM24RD4/32HDI

32GB 2Rx4 4G x 72-Bit PC4-2400

CL17 Registered w/Parity 288-Pin DIMM

### DESCRIPTION

Kingston's KSM24RD4/32HDI is a 4G x 72-bit (32GB) DDR4-2400 CL17 SDRAM (Synchronous DRAM) registered w/ parity, 2Rx4, ECC, memory module, based on thirty-six 2G x 4-bit FBGA components. The SPD is programmed to JEDEC standard latency DDR4-2400 timing of 17-17-17 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: PC4-2400, 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)	17 cycles
Row Cycle Time (tRCmin)	46.16ns(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 (page 2)

### Module Assembly

**DRAM:** HYNIX (D-DIE)

**RCD:** IDT

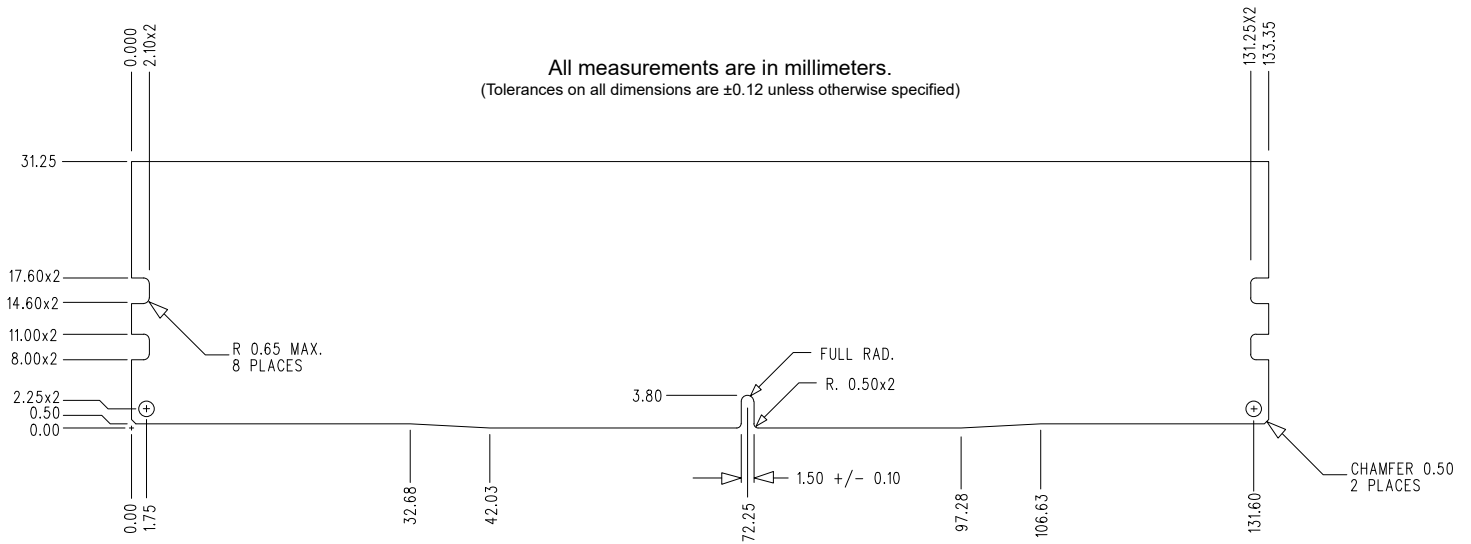
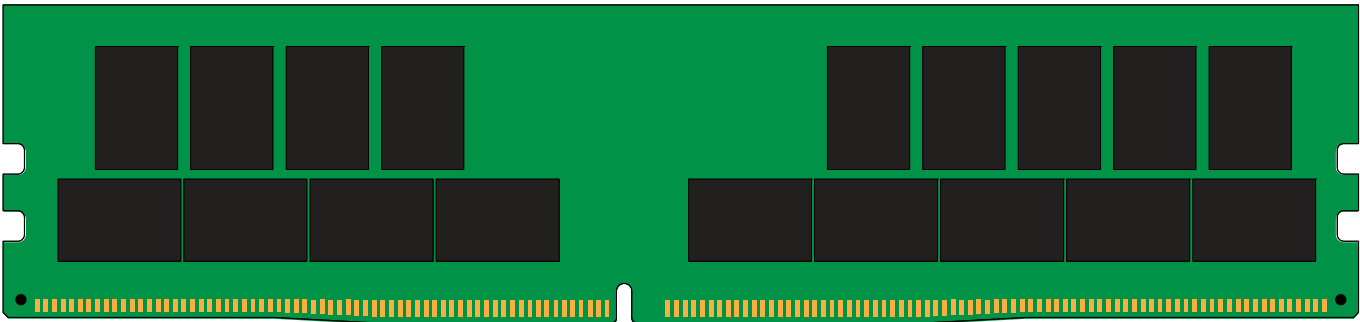
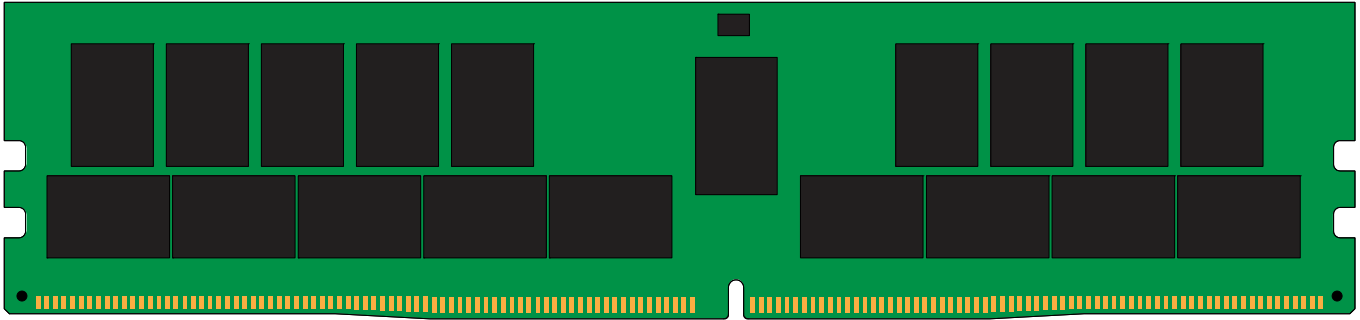
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## IDD Specifications

IDD		unit
Symbol	2400	
IDD0	1449	mA
IDD0A	1457	mA
IDD1	1594	mA
IDD1A	1656	mA
IDD2N	1324	mA
IDD2NA	1340	mA
IDD2NT	1504	mA
IDD2NL	1077	mA
IDD2NG	1333	mA
IDD2ND	1298	mA
IDD2NP	1356	mA
IDD2P	846	mA
IDD2Q	1249	mA
IDD3N	1383	mA
IDD3NA	1383	mA
IDD3P	980	mA
IDD4R	2351	mA
IDD4RA	2422	mA
IDD4RB	2378	mA
IDD4W	2407	mA
IDD4WA	2481	mA
IDD4WB	2239	mA
IDD4WC	2398	mA
IDD4WP	2698	mA
IDD5B	4394	mA
IDD5F2	3383	mA
IDD5F4	3054	mA
IDD6N	623	mA
IDD6E	882	mA
IDD6R	384	mA
IDD6A	882	mA
IDD7	3935	mA
IDD8	290	mA

IPP		unit
Symbol	2400	
IPP0	112	mA
IPP1	121	mA
IPP2N	83	mA
IPP2P	66	mA
IPP3N	398	mA
IPP3P	384	mA
IPP4R	297	mA
IPP4W	293	mA
IPP5B	1017	mA
IPP5F2	684	mA
IPP5F4	563	mA
IPP6N	146	mA
IPP6E	207	mA
IPP6R	99	mA
IPP6A	204	mA
IPP7	481	mA
IPP8	70	mA

## MODULE DIMENSIONS



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