

Memory Module Specifications

KSM24RS4/16HAI

16GB 1Rx4 2G x 72-Bit PC4-2400

CL17 Registered w/Parity 288-Pin DIMM

DESCRIPTION

Kingston's KSM24RS4/16HAI is a 2G x 72-bit (16GB) DDR4-2400 CL17 SDRAM (Synchronous DRAM) registered w/ parity, 1Rx4, ECC, memory module, based on eighteen 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=2.25V 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 (A-DIE) |
| RCD: IDT |

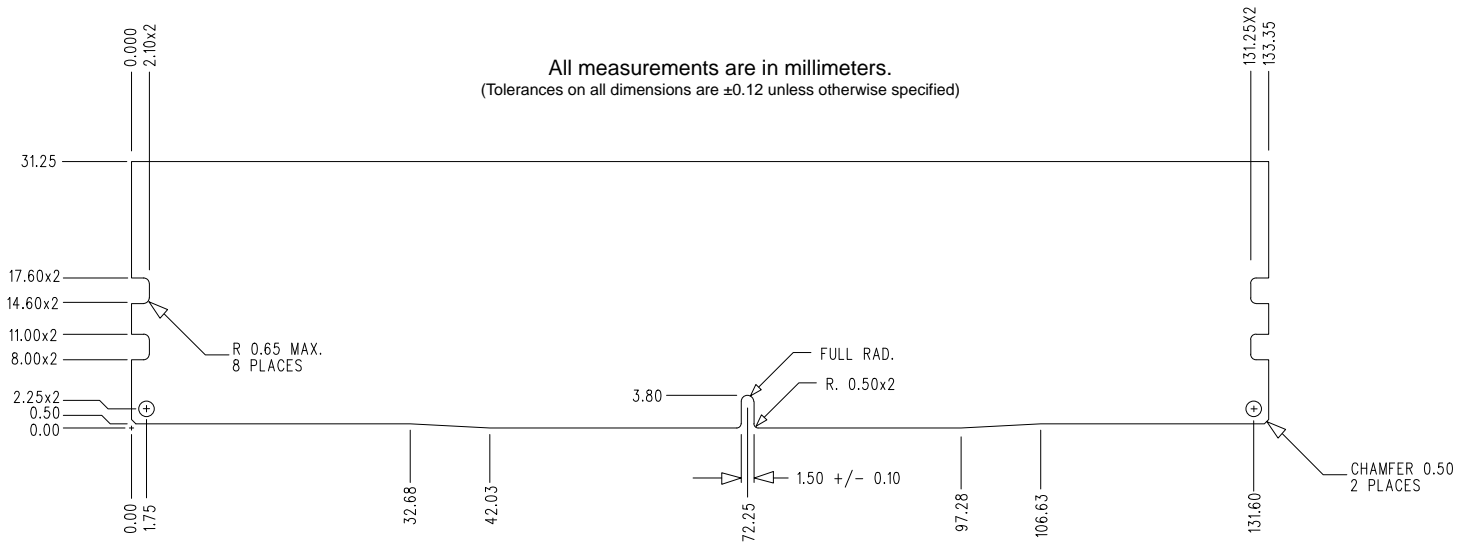
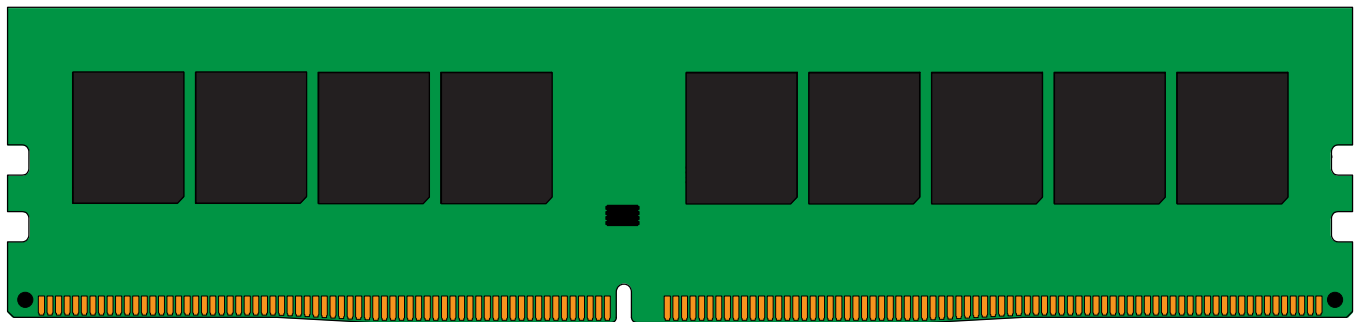
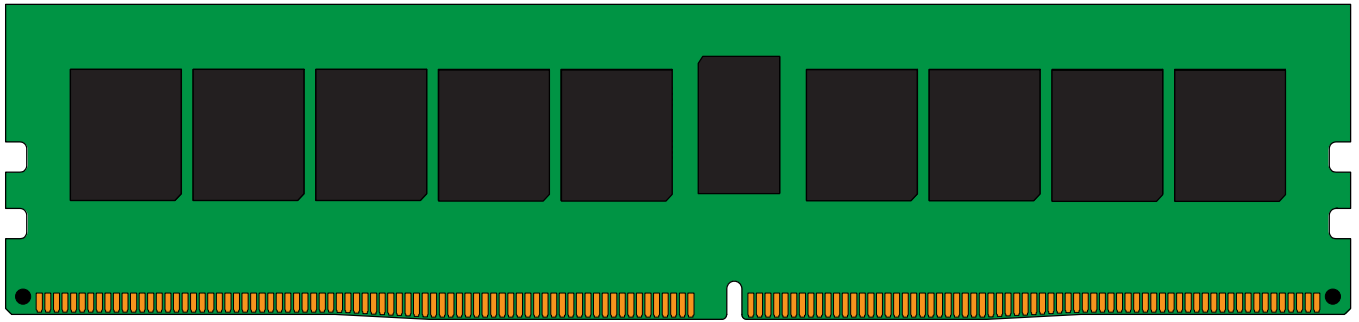
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IDD Specifications

| IDD | | unit |
|--------|------|------|
| Symbol | 2400 | |
| IDD0 | 1177 | mA |
| IDD0A | 1177 | mA |
| IDD1 | 1362 | mA |
| IDD1A | 1395 | mA |
| IDD2N | 979 | mA |
| IDD2NA | 979 | mA |
| IDD2NT | 1069 | mA |
| IDD2NL | 817 | mA |
| IDD2NG | 961 | mA |
| IDD2ND | 961 | mA |
| IDD2NP | 961 | mA |
| IDD2P | 630 | mA |
| IDD2Q | 889 | mA |
| IDD3N | 1303 | mA |
| IDD3NA | 1303 | mA |
| IDD3P | 972 | mA |
| IDD4R | 2568 | mA |
| IDD4RA | 2748 | mA |
| IDD4RB | 2730 | mA |
| IDD4W | 2460 | mA |
| IDD4WA | 2460 | mA |
| IDD4WB | 2370 | mA |
| IDD4WC | 2316 | mA |
| IDD4WP | 2730 | mA |
| IDD5B | 4021 | mA |
| IDD5F2 | 3049 | mA |
| IDD5F4 | 2779 | mA |
| IDD6N | 418 | mA |
| IDD6E | 526 | mA |
| IDD6R | 274 | mA |
| IDD6A | 526 | mA |
| IDD7 | 3720 | mA |
| IDD8 | 238 | mA |

| IPP | | unit |
|--------|------|------|
| Symbol | 2400 | |
| IPP0 | 108 | mA |
| IPP1 | 126 | mA |
| IPP2N | 58 | mA |
| IPP2P | 58 | mA |
| IPP3N | 270 | mA |
| IPP3P | 270 | mA |
| IPP4R | 270 | mA |
| IPP4W | 270 | mA |
| IPP5B | 1170 | mA |
| IPP5F2 | 828 | mA |
| IPP5F4 | 720 | mA |
| IPP6N | 72 | mA |
| IPP6E | 126 | mA |
| IPP6R | 74 | mA |
| IPP6A | 126 | mA |
| IPP7 | 450 | mA |
| IPP8 | 58 | mA |

MODULE DIMENSIONS



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