

Memory Module Specifications

KSM29RS4/16HDR

16GB 1Rx4 2G x 72-Bit PC4-2933

CL21 Registered w/Parity 288-Pin DIMM

DESCRIPTION

Kingston's KSM29RS4/16HDR is a 2G x 72-bit (16GB) DDR4-2933 CL21 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 DDR4-2933 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 (D-DIE)

RCD: Rambus

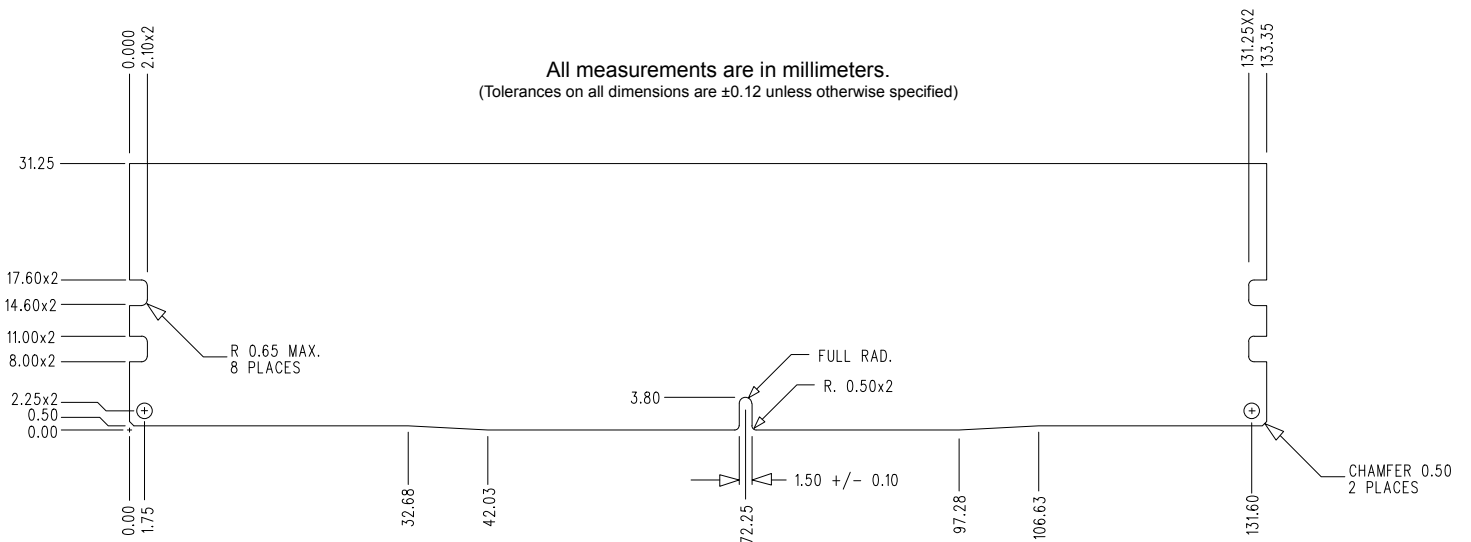
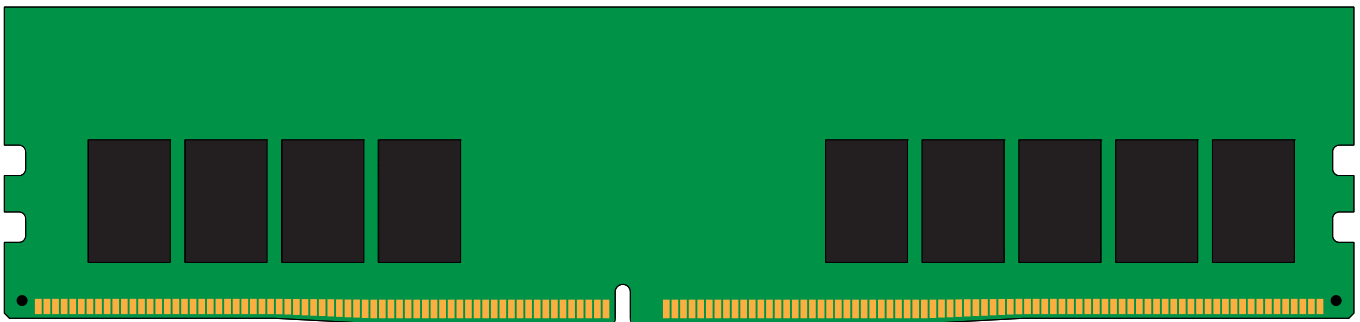
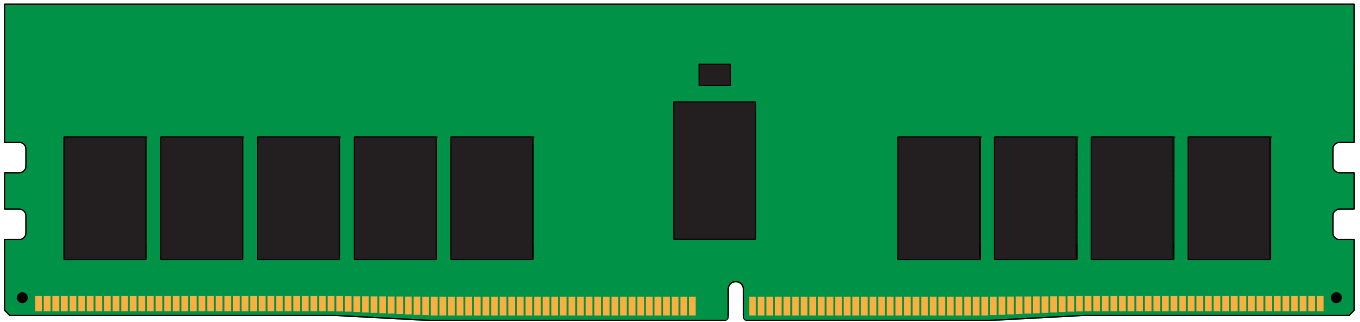
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IDD Specifications

IDD		unit
Symbol	2933	
IDD0	1047	mA
IDD0A	1047	mA
IDD1	1205	mA
IDD1A	1263	mA
IDD2N	929	mA
IDD2NA	930	mA
IDD2NT	1015	mA
IDD2NL	796	mA
IDD2NG	926	mA
IDD2ND	912	mA
IDD2NP	938	mA
IDD2P	592	mA
IDD2Q	868	mA
IDD3N	961	mA
IDD3NA	961	mA
IDD3P	660	mA
IDD4R	2085	mA
IDD4RA	2134	mA
IDD4RB	2102	mA
IDD4W	2120	mA
IDD4WA	2190	mA
IDD4WB	1935	mA
IDD4WC	2111	mA
IDD4WP	2447	mA
IDD5B	3980	mA
IDD5F2	2980	mA
IDD5F4	2666	mA
IDD6N	325	mA
IDD6E	454	mA
IDD6R	206	mA
IDD6A	455	mA
IDD7	3803	mA
IDD8	159	mA

IPP		unit
Symbol	2933	
IPP0	71	mA
IPP1	80	mA
IPP2N	42	mA
IPP2P	34	mA
IPP3N	200	mA
IPP3P	193	mA
IPP4R	256	mA
IPP4W	253	mA
IPP5B	977	mA
IPP5F2	646	mA
IPP5F4	526	mA
IPP6N	73	mA
IPP6E	104	mA
IPP6R	50	mA
IPP6A	102	mA
IPP7	479	mA
IPP8	36	mA

MODULE DIMENSIONS



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