

Memory Module Specifications

KSM29ED8/32HA

32GB 2Rx8 4G x 72-Bit PC4-2933

CL21 288-Pin DIMM

DESCRIPTION

Kingston's KSM29ED8/32HA is a 4G x 72-bit (32GB) DDR4-2933 CL21 SDRAM (Synchronous DRAM), 2Rx8, ECC, memory module, based on eighteen 2G x 8-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 Typical
- VDDQ = 1.2V Typical
- VPP = 2.5V Typical
- VDDSPD = 2.2V to 3.6V
- Nominal and dynamic on-die termination (ODT) for data, strobe, and mask signals
- Low-power auto self refresh (LPASR)
- Data bus inversion (DBI) for data bus
- On-die VREFDQ generation and calibration
- Dual-rank
- On-board I2 serial presence-detect (SPD) EEPROM
- Temperature sensor with integrated SPD
- 16 internal banks; 4 groups of 4 banks each
- Fixed burst chop (BC) of 4 and burst length (BL) of 8 via the mode register set (MRS)
- Selectable BC4 or BL8 on-the-fly (OTF)
- Fly-by topology
- Terminated control command and address bus
- PCB: Height 1.23" (31.25mm)
- RoHS Compliant and Halogen-Free

SPECIFICATIONS

CL(IDD)	21 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 (A-DIE)

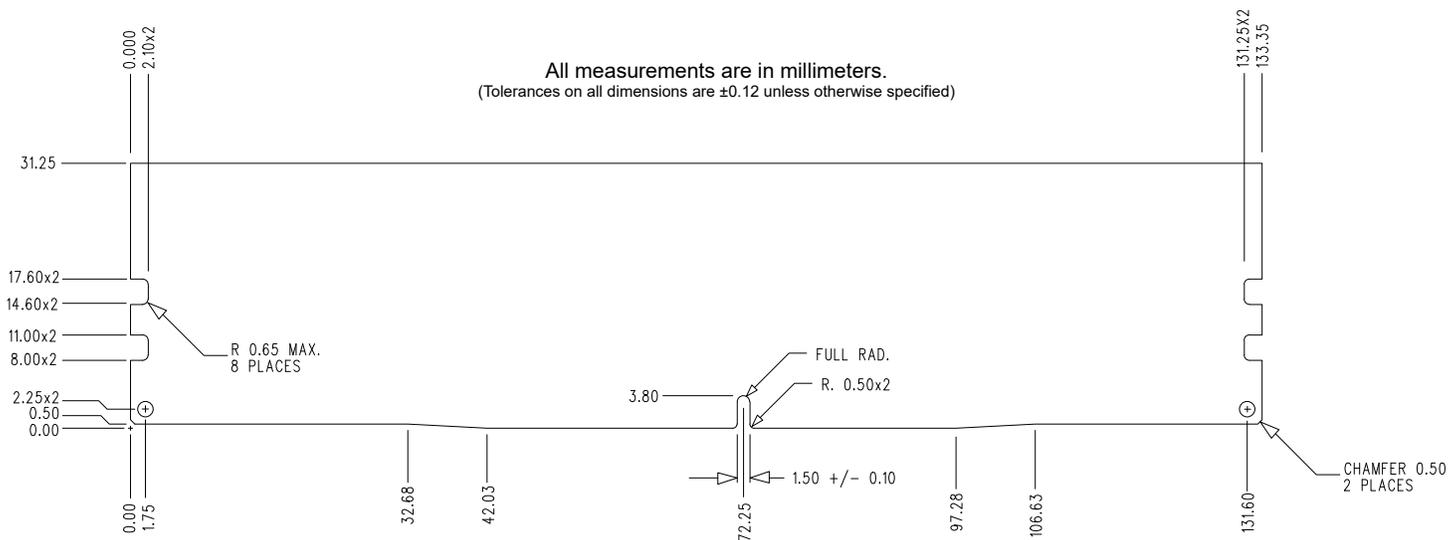
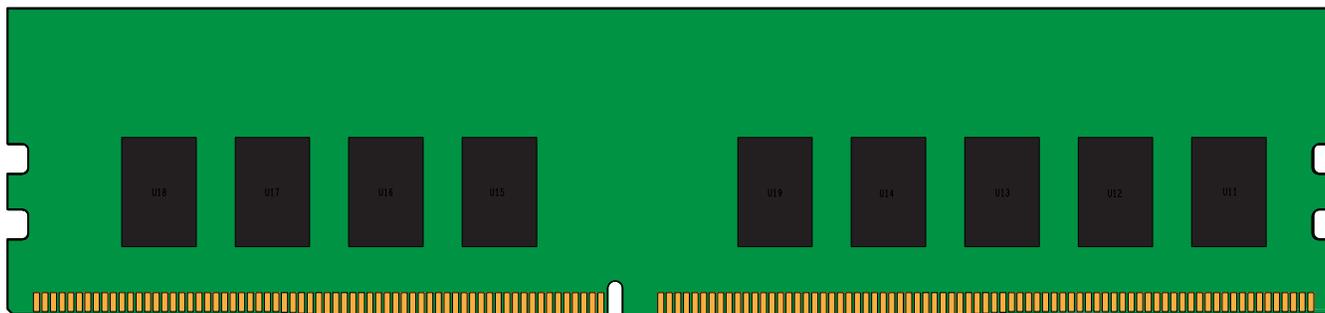
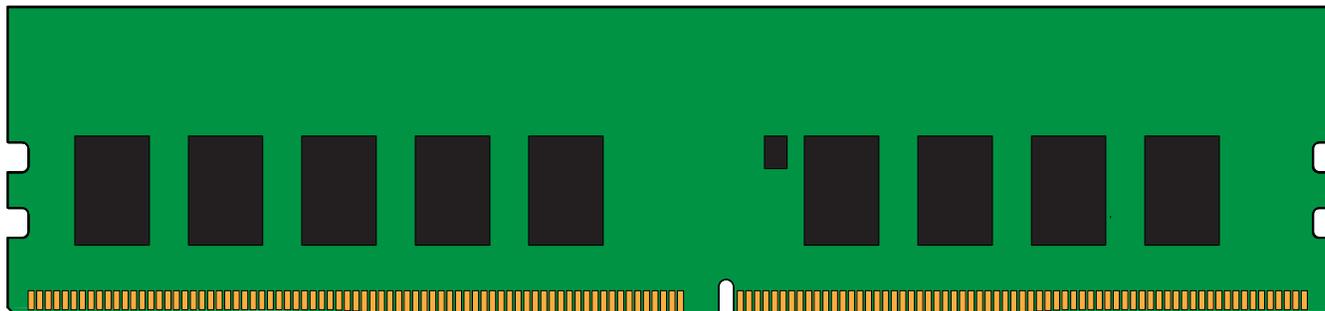
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IDD Specifications

IDD		unit
Symbol	2933	
IDD0	740	mA
IDD0A	742	mA
IDD1	808	mA
IDD1A	839	mA
IDD2N	661	mA
IDD2NA	662	mA
IDD2NT	757	mA
IDD2NL	455	mA
IDD2NG	651	mA
IDD2ND	634	mA
IDD2NP	682	mA
IDD2P	439	mA
IDD2Q	603	mA
IDD3N	987	mA
IDD3NA	987	mA
IDD3P	789	mA
IDD4R	1604	mA
IDD4RA	1611	mA
IDD4RB	1615	mA
IDD4W	1410	mA
IDD4WA	1455	mA
IDD4WB	1350	mA
IDD4WC	1403	mA
IDD4WP	1664	mA
IDD5B	3867	mA
IDD5F2	2817	mA
IDD5F4	2414	mA
IDD6N	588	mA
IDD6E	887	mA
IDD6R	332	mA
IDD6A	887	mA
IDD7	1600	mA
IDD8	249	mA

IPP		unit
Symbol	2933	
IPP0	31	mA
IPP1	31	mA
IPP2N	25	mA
IPP2P	25	mA
IPP3N	35	mA
IPP3P	35	mA
IPP4R	30	mA
IPP4W	30	mA
IPP5B	601	mA
IPP5F2	403	mA
IPP5F4	335	mA
IPP6N	76	mA
IPP6E	129	mA
IPP6R	39	mA
IPP6A	114	mA
IPP7	87	mA
IPP8	25	mA

MODULE DIMENSIONS



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