

Memory Module Specifications

KSM29SED8/16HD

16GB 2Rx8 2G x 72-Bit PC4-2933

CL21 260-Pin ECC SODIMM

DESCRIPTION

Kingston's KSM29SED8/16HD is a 2G x 72-bit (16GB) DDR4-2933 CL21 SDRAM (Synchronous DRAM) w/ parity, 2Rx8, ECC, memory module, based on eighteen 1G x 8-bit FBGA components. The SPD is programmed to JEDEC standard latency DDR4-2933 timing of 21-21-21 at 1.2V. Each 260-pin SODIMM 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 = 2.20V to 3.60V
- 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: PC4-2666, 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
- 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 (D-DIE)

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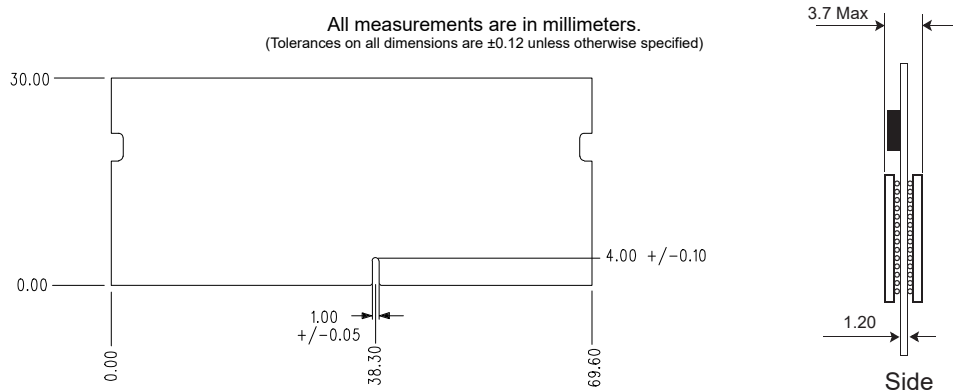
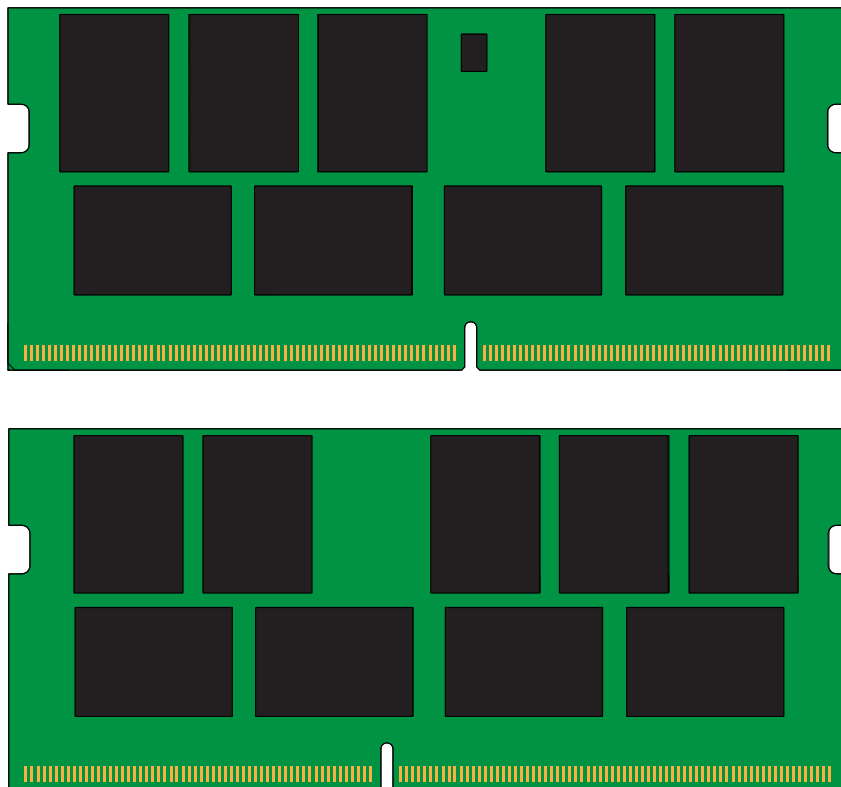
IDD Specifications

IDD		unit
Symbol	2933	
IDD0	540	mA
IDD0A	542	mA
IDD1	608	mA
IDD1A	632	mA
IDD2N	480	mA
IDD2NA	483	mA
IDD2NT	569	mA
IDD2NL	331	mA
IDD2NG	479	mA
IDD2ND	460	mA
IDD2NP	489	mA
IDD2P	320	mA
IDD2Q	423	mA
IDD3N	518	mA
IDD3NA	518	mA
IDD3P	392	mA
IDD4R	1212	mA
IDD4RA	1238	mA
IDD4RB	1226	mA
IDD4W	1209	mA
IDD4WA	1237	mA
IDD4WB	1124	mA
IDD4WC	1170	mA
IDD4WP	1352	mA
IDD5B	1990	mA
IDD5F2	1496	mA
IDD5F4	1347	mA
IDD6N	338	mA
IDD6E	466	mA
IDD6R	218	mA
IDD6A	466	mA
IDD7	1398	mA
IDD8	176	mA

IPP		unit
Symbol	2933	
IPP0	76	mA
IPP1	84	mA
IPP2N	61	mA
IPP2P	56	mA
IPP3N	243	mA
IPP3P	241	mA
IPP4R	180	mA
IPP4W	180	mA
IPP5B	503	mA
IPP5F2	339	mA
IPP5F4	296	mA
IPP6N	93	mA
IPP6E	125	mA
IPP6R	74	mA
IPP6A	125	mA
IPP7	175	mA
IPP8	59	mA

continued

MODULE DIMENSIONS



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