

Memory Module Specifications

KSM29SED8/16MR

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

CL21 260-Pin ECC SODIMM

DESCRIPTION

Kingston's KSM29SED8/16MR 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

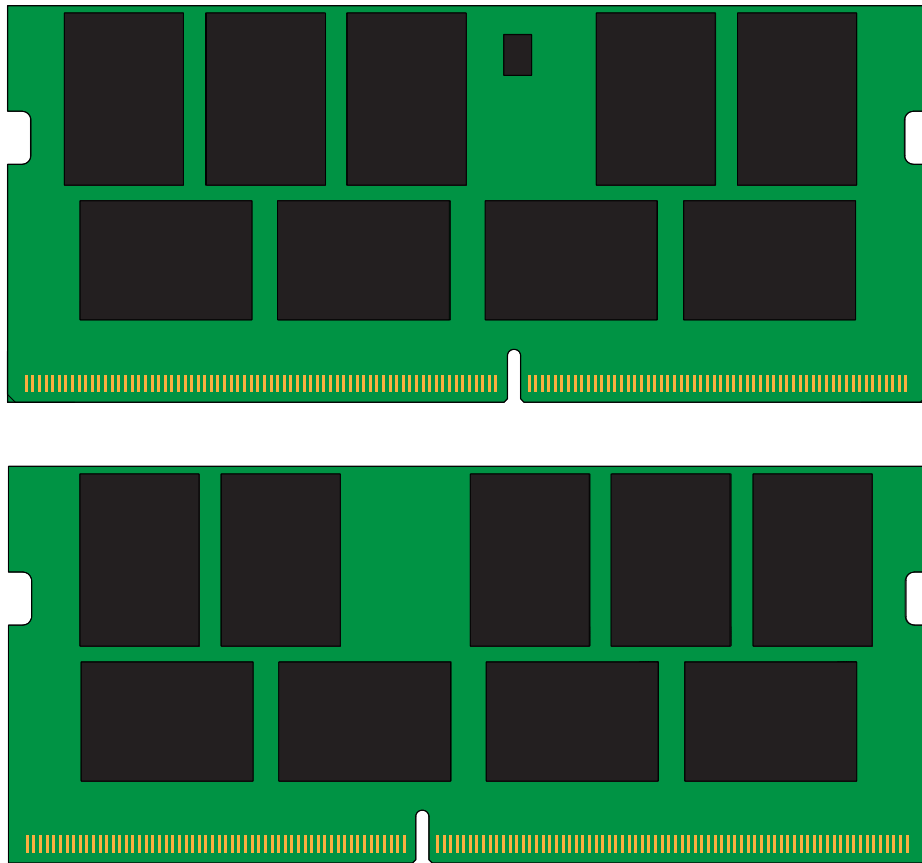
DRAM: Micron (R-DIE)

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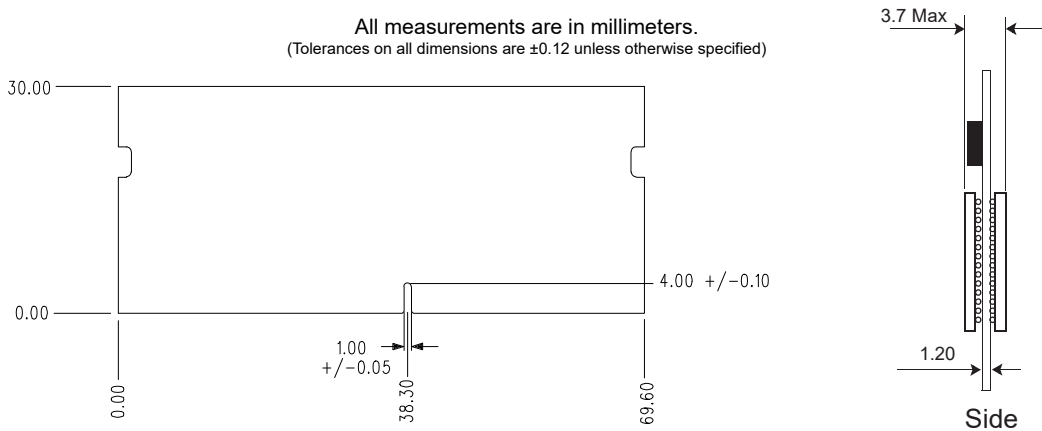
IDD Specifications

Symbol	2933	Units
I _{DD0}	756	mA
I _{PP0}	54	mA
I _{DD1}	819	mA
I _{DD2N}	666	mA
I _{DD2NT}	693	mA
I _{DD2P}	540	mA
I _{DD2Q}	612	mA
I _{DD3N}	738	mA
I _{PP3N}	54	mA
I _{DD3P}	576	mA
I _{DD4R}	1359	mA
I _{DD4W}	1224	mA
I _{DD5R}	756	mA
I _{PP5R}	63	mA
I _{DD6N}	576	mA
I _{DD6E}	936	mA
I _{DD6R}	342	mA
I _{DD6A}	144	mA
I _{DD6A}	342	mA
I _{DD6A}	522	mA
I _{DD6A}	936	mA
I _{PP6X}	90	mA
I _{DD7}	1692	mA
I _{PP7}	144	mA
I _{DD8}	432	mA

MODULE DIMENSIONS



All measurements are in millimeters.
(Tolerances on all dimensions are ± 0.12 unless otherwise specified)



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