

## Memory Module Specifications



### KSM26SES8/16ME

16GB 1Rx8 2G x 72-Bit PC4-2666

CL19 260-Pin ECC SODIMM

#### DESCRIPTION

Kingston's KSM26SES8/16ME is a 2G x 72-bit (16GB) DDR4-2666 CL19 SDRAM (Synchronous DRAM) w/ parity, 1Rx8, ECC, memory module, based on nine 2G x 8-bit FBGA components. The SPD is programmed to JEDEC standard latency DDR4-2666 timing of 19-19-19 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)  | 19 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 (E-DIE)

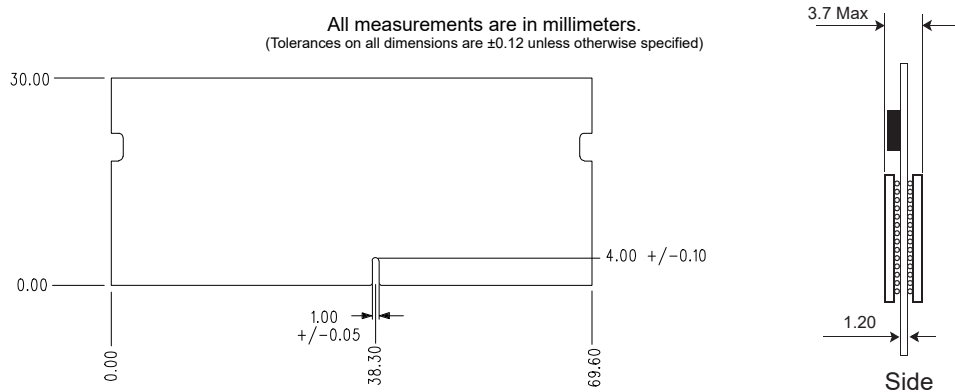
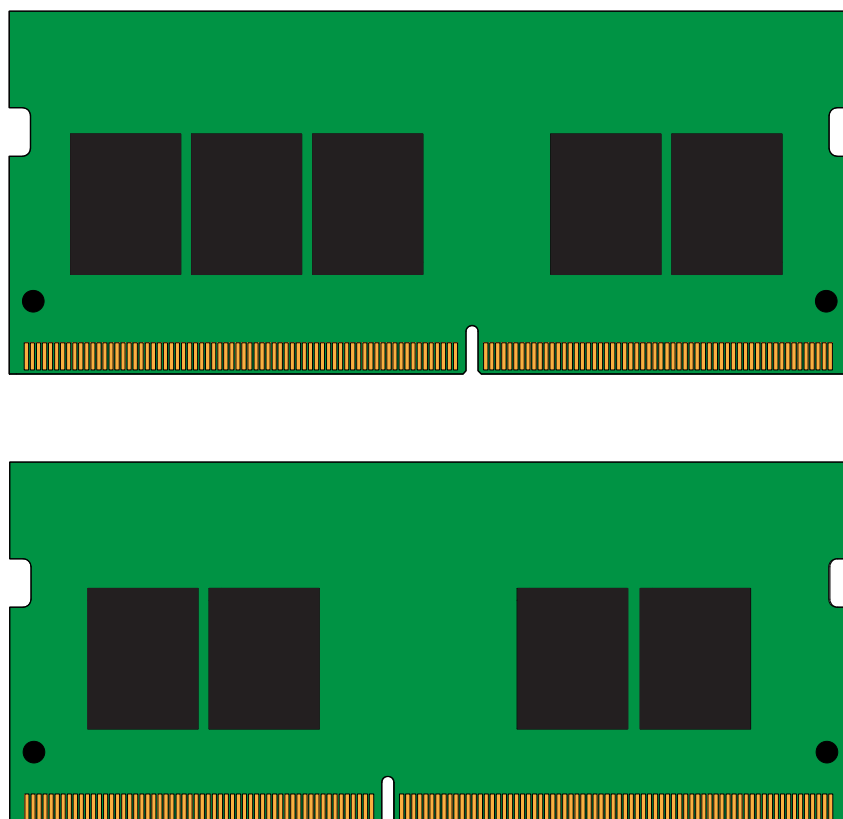
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## IDD Specifications

| Symbol                          | 2666 | Units |
|---------------------------------|------|-------|
| $I_{DD0}$                       | 522  | mA    |
| $I_{PP0}$                       | 27   | mA    |
| $I_{DD1}$                       | 621  | mA    |
| $I_{DD2N}$                      | 387  | mA    |
| $I_{DD2NT}$                     | 441  | mA    |
| $I_{DD2P}$                      | 342  | mA    |
| $I_{DD2Q}$                      | 378  | mA    |
| $I_{DD3N}$                      | 531  | mA    |
| $I_{PP3N}$                      | 18   | mA    |
| $I_{DD3P}$                      | 432  | mA    |
| $I_{DD4R}$                      | 1314 | mA    |
| $I_{DD4W}$                      | 1053 | mA    |
| $I_{DD5R}$                      | 612  | mA    |
| $I_{PP5R}$                      | 36   | mA    |
| $I_{DD6N}$                      | 477  | mA    |
| $I_{DD6E}$                      | 1017 | mA    |
| $I_{DD6R}$                      | 180  | mA    |
| $I_{DD6A} (25^{\circ}\text{C})$ | 99   | mA    |
| $I_{DD6A} (45^{\circ}\text{C})$ | 180  | mA    |
| $I_{DD6A} (75^{\circ}\text{C})$ | 459  | mA    |
| $I_{DD6A} (95^{\circ}\text{C})$ | 1017 | mA    |
| $I_{PP6X}$                      | 54   | mA    |
| $I_{DD7}$                       | 1629 | mA    |
| $I_{PP7}$                       | 72   | mA    |
| $I_{DD8}$                       | 324  | mA    |

continued

## MODULE DIMENSIONS



The product images shown are for illustration purposes only and may not be an exact representation of the product.  
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