

# Memory Module Specifications

## KVR32S22S6/8

8GB 1Rx16 1G x 64-Bit PC4-3200  
CL22 260-Pin SODIMM

### DESCRIPTION

This document describes ValueRAM's KVR32S22S6/8 as a 1G x 64-bit (8GB) DDR4-3200 CL22 SDRAM (Synchronous DRAM), 1Rx16, memory module, based on four 1G x 16-bit FBGA components. The SPD is programmed to JEDEC standard latency DDR4-3200 timing of 22-22-22 at 1.2V. This 260-pin SODIMM uses gold contact fingers. The electrical and mechanical specifications are as follows:

### FEATURES

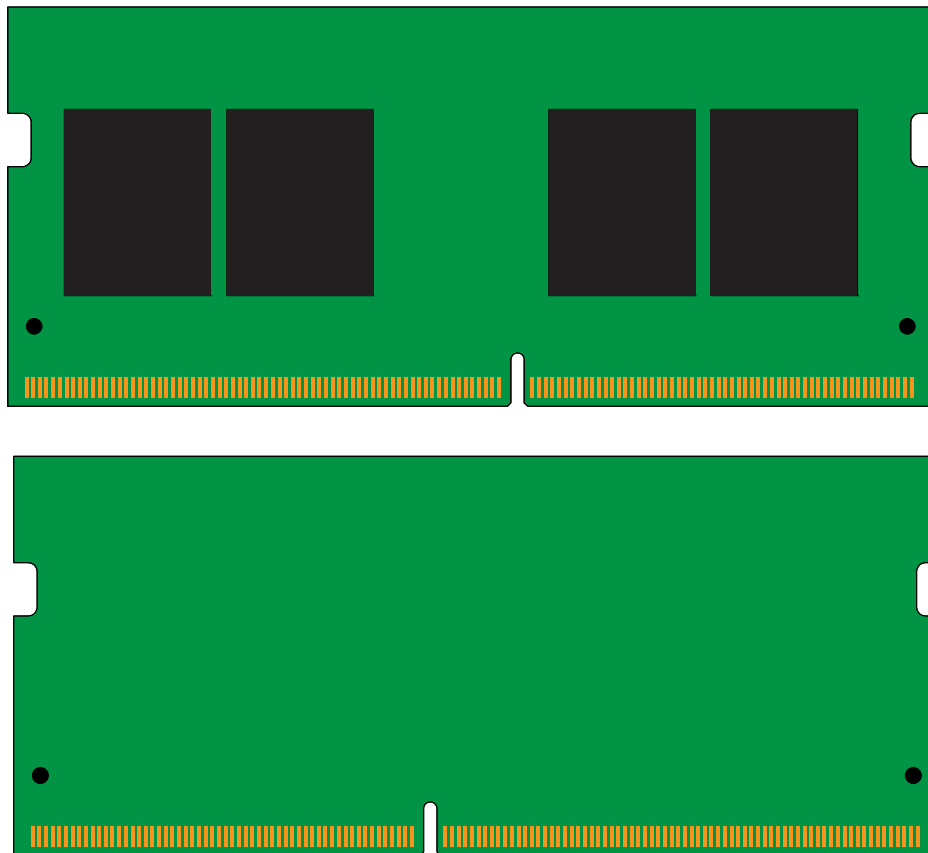
- Power Supply: VDD = 1.2V Typical
- VDDQ = 1.2V Typical
- VPP = 2.5V Typical
- VDDSPD = 2.2V to 3.6V
- Nominal and dynamic on-die termination (ODT) for data, strobe, and mask signals
- Low-power auto self refresh (LPASR)
- Data bus inversion (DBI) for data bus
- On-die VREFDQ generation and calibration
- Single-rank
- On-board I2 serial presence-detect (SPD) EEPROM
- 8 internal banks; 2 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 1.18" (30.00mm)
- RoHS Compliant and Halogen-Free

### SPECIFICATIONS

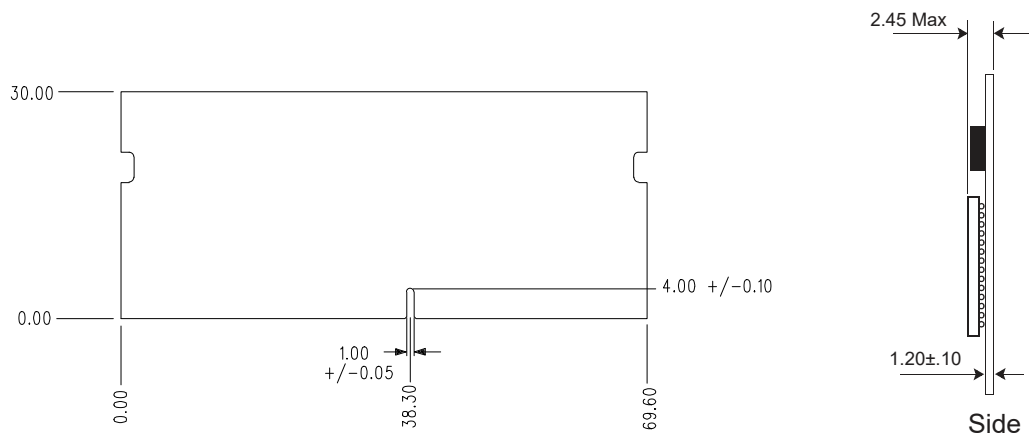
|  |                   |
|--|-------------------|
| CL(IDD)  | 22 cycles         |
| Row Cycle Time (tRCmin)                          | 45.75ns(min.)     |
| Refresh to Active/Refresh Command Time (tRFCmin) | 350ns(min.)       |
| Row Active Time (tRASmin)                        | 32ns(min.)        |
| UL Rating  | 94 V - 0          |
| Operating Temperature                            | 0° C to +85° C    |
| Storage Temperature                              | -55° C to +100° C |

Continued >>

## MODULE DIMENSIONS



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



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