

# Memory Module Specifications

## KVR26N19S8/8

8GB 1Rx8 1G x 64-Bit PC4-2666

CL19 288-Pin DIMM

### DESCRIPTION

This document describes ValueRAM's KVR26N19S8/8 is a 1G x 64-bit (8GB) DDR4-2666 CL19 SDRAM (Synchronous DRAM), 1Rx8, memory module, based on eight 1G x 8-bit FBGA components. The SPD is programmed to JEDEC standard latency DDR4-2666 timing of 19-19-19 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
- Single-rank
- On-board I2 serial presence-detect (SPD) EEPROM
- 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)	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	TBD W*
UL Rating	94 V - 0
Operating Temperature	0° C to +85° C
Storage Temperature	-55° C to +100° C

\*Power will vary depending on the SDRAM used.

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The diagram illustrates the front and back views of a Raspberry Pi 4B. The front view shows the top of the green PCB with eight large black square components (RAM) and one smaller black square component (CPU) in the center. The back view shows the bottom of the PCB, which is mostly empty except for the gold-colored edge connector pins along the bottom edge. The labels 'Front' and 'Back' are centered below their respective views.

Technical drawing of a mechanical part, likely a bracket or support, showing dimensions in millimeters (mm). The drawing includes a top view and a side view.

**Top View Dimensions:**

- Overall width: 133.35
- Overall length: 129.55
- Distance from left edge to center of Pin 1: 2.10 ± 0.15
- Distance from left edge to center of Pin 2: 2.70 ± 0.15
- Distance from center of Pin 1 to center of Pin 2: 3.35
- Distance from center of Pin 1 to center of Pin 3: 64.60
- Distance from center of Pin 2 to center of Pin 3: 56.10
- Distance from center of Pin 3 to center of Pin 4: 22.95
- Distance from center of Pin 1 to center of Pin 4: 28.90

**Side View Dimensions:**

- Overall height: 31.25
- Distance from top edge to center of Pin 1: 3.00
- Distance from top edge to center of Pin 2: 14.60
- Distance from top edge to center of Pin 3: 17.60
- Distance from top edge to center of Pin 4: 11.00
- Distance from center of Pin 1 to center of Pin 2: 8.00
- Distance from center of Pin 2 to center of Pin 3: 17.60
- Distance from center of Pin 3 to center of Pin 4: 11.00

**Pin Locations:**

- Pin 1: Located at the bottom left corner.
- Pin 2: Located at the bottom center.
- Pin 3: Located at the bottom right corner.
- Pin 4: Located at the bottom right corner, slightly offset from Pin 3.

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