

# Memory Module Specifications

## KSM32ED8/16MR

16GB 2Rx8 2G x 72-Bit PC4-3200

CL22 288-Pin DIMM

### DESCRIPTION

Kingston's KSM32ED8/16MR is a 2G x 72-bit (16GB) DDR4-3200 CL22 SDRAM (Synchronous DRAM), 2Rx8, ECC, memory module, based on eighteen 1G x 8-bit FBGA components. The SPD is programmed to JEDEC standard latency DDR4-3200 timing of 22-22-22 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
- Dual-rank
- On-board I2 serial presence-detect (SPD) EEPROM
- Temperature sensor with integrated SPD
- 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)	22 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

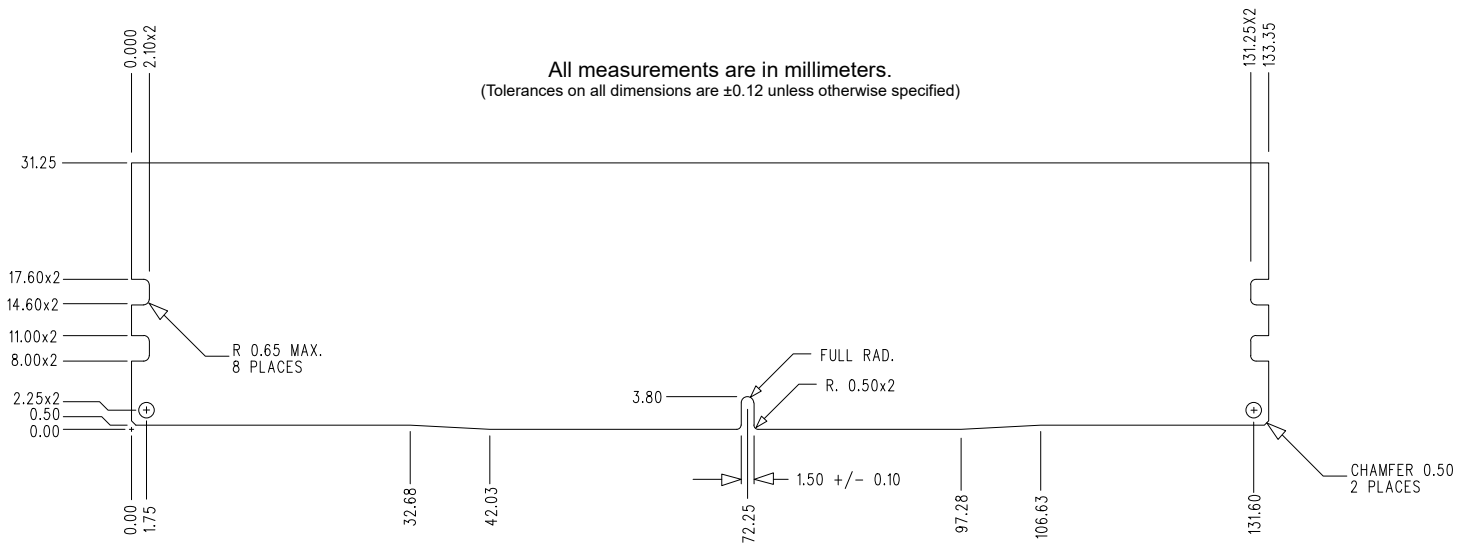
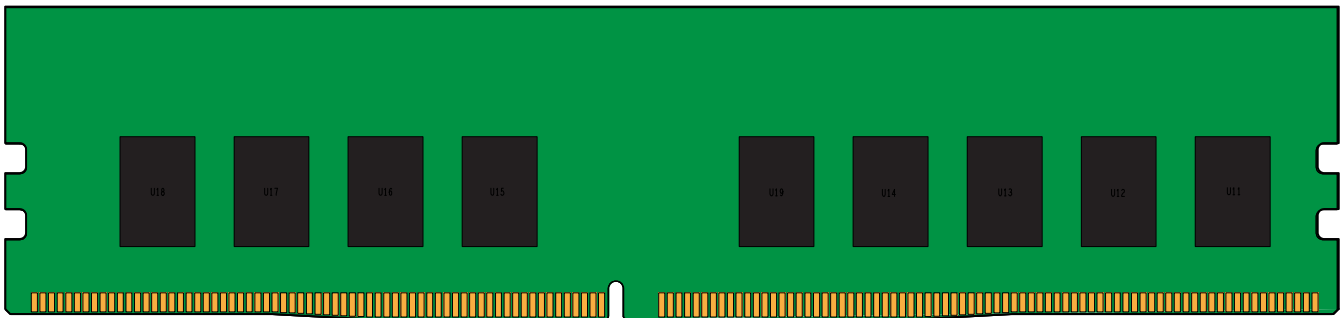
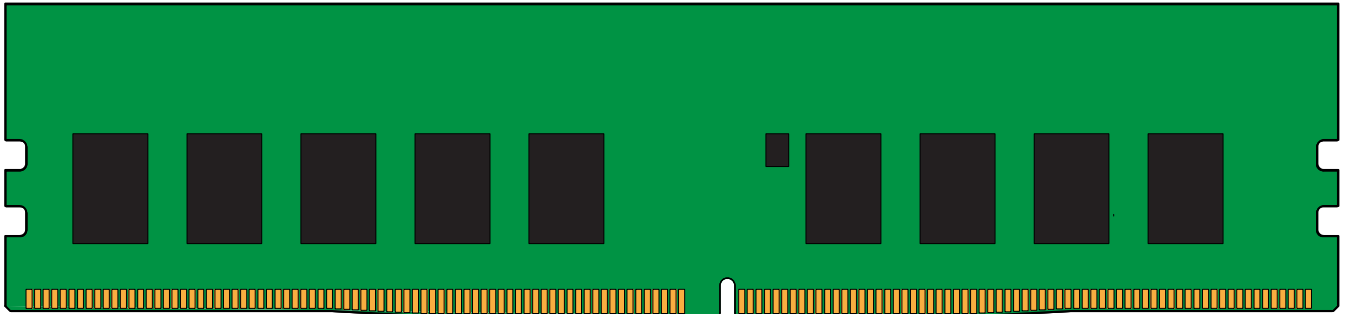
<b>DRAM: MICRON (R-DIE)</b>
-----------------------------

Continued >>

## IDD Specifications

Symbol	3200	Units
I <sub>DD0</sub>	774	mA
I <sub>PP0</sub>	54	mA
I <sub>DD1</sub>	837	mA
I <sub>DD2N</sub>	684	mA
I <sub>DD2NT</sub>	711	mA
I <sub>DD2P</sub>	540	mA
I <sub>DD2Q</sub>	612	mA
I <sub>DD3N</sub>	774	mA
I <sub>PP3N</sub>	54	mA
I <sub>DD3P</sub>	594	mA
I <sub>DD4R</sub>	1449	mA
I <sub>DD4W</sub>	1296	mA
I <sub>DD5R</sub>	765	mA
I <sub>PP5R</sub>	63	mA
I <sub>DD6N</sub>	576	mA
I <sub>DD6E</sub>	936	mA
I <sub>DD6R</sub>	342	mA
I <sub>DD6A</sub>	144	mA
I <sub>DD6A</sub>	342	mA
I <sub>DD6A</sub>	522	mA
I <sub>DD6A</sub>	90	mA
I <sub>PP6X</sub>	1737	mA
I <sub>DD7</sub>	144	mA
I <sub>PP7</sub>	432	mA
I <sub>DD8</sub>	864	mA

## MODULE DIMENSIONS



The product images shown are for illustration purposes only and may not be an exact representation of the product. Kingston reserves the right to change any information at anytime without notice.