KVR1333D3D8R9S/4GHA

4GB 512M x 72-Bit PC3-10600
CL9 Registered w/Parity 240-Pin DIMM

DESCRIPTION:

This document describes ValueRAM's 512M x 72-bit 4GB (4096MB) DDR3-1333MHz CL9 SDRAM (Synchronous DRAM) registered w/parity, dual-rank memory module, based on eighteen 256M x 8-bit DDR3-1333MHz FBGA components. The SPD is programmed to JEDEC standard latency 1333MHz timing of 9-9-9 at 1.5V. This 240-pin DIMM uses gold contact fingers and requires +1.5V. The electrical and mechanical specifications are as follows:

FEATURES:

DRAM Supported:

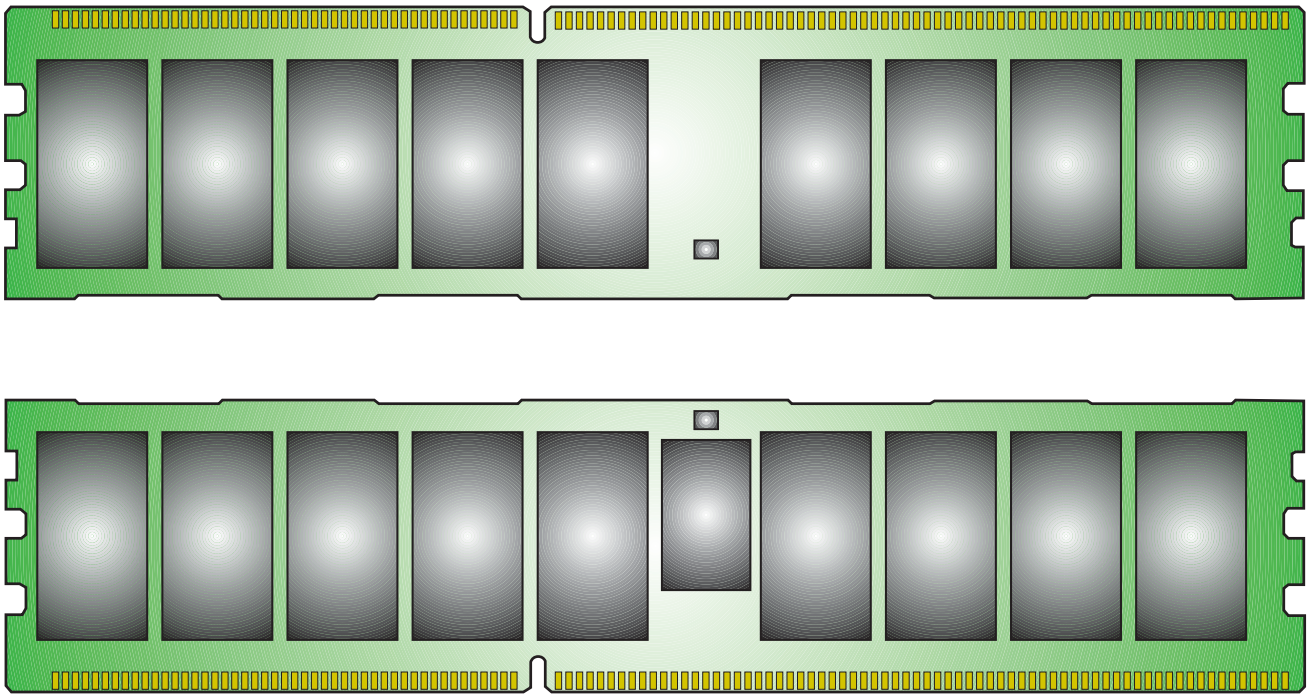
Hynix A-Die

- ☑ JEDEC standard 1.5V ± 0.075V Power Supply
- ☑ VDDQ = 1.5V ± 0.075V
- ☑ 667MHz fCK for 1333Mb/sec/pin
- ☑ 8 independent internal bank
- ☑ Programmable CAS Latency: 6,7,8,9,10
- ☑ Programmable Additive Latency: 0, CL - 2, or CL - 1 clock
- ☑ Programmable CAS Write Latency(CWL) = 7(DDR3-1333)
- ☑ 8-bit pre-fetch
- ☑ Burst Length: 8 (Interleave without any limit, sequential with starting address “000” only), 4 with tCCD = 4 which does not allow seamless read or write [either on the fly using A12 or MRS]
- ☑ Bi-directional Differential Data Strobe
- ☑ Internal(self) calibration : Internal self calibration through ZQ pin (RZQ : 240 ohm ± 1%)
- ☑ On Die Termination using ODT pin
- ☑ On-DIMM thermal sensor (Grade B)
- ☑ Average Refresh Period 7.8us at lower then TCASE 85°C, 3.9us at 85°C < TCASE . 95°C
- ☑ Asynchronous Reset
- ☑ PCB : Height 1.180” (30.00mm), double sided component

PERFORMANCE:

☑ CL(IDD)	9 cycles
☑ Row Cycle Time (tRCmin)	49.5ns (min.)
☑ Refresh to Active/Refresh Command Time (tRFCmin)	160ns (min.)
☑ Row Active Time (tRASmin)	36ns (min.)
☑ Power	2.812 W (operating)
☑ UL Rating	94 V - 0
☑ Operating Temperature	0° C to 85° C
☑ Storage Temperature	-55° C to +100° C

MODULE DIMENSIONS:



(units = millimeters)