

## KVR1333D3N8/512

### 512MB 64M x 64-Bit PC3-10600

### CL8 240-Pin DIMM

#### DESCRIPTION:

This document describes ValueRAM's 64M x 64-bit (512MB) DDR3-1333 CL8 SDRAM (Synchronous DRAM) memory module, based on eight 64M x 8-bit DDR3-1333 FBGA components. The SPD is programmed to JEDEC standard latency 1333Mhz timing of 8-8-8 at 1.5V. This 240-pin DIMM uses gold contact fingers and requires +1.5V. The electrical and mechanical specifications are as follows:

#### FEATURES:

- JEDEC standard 1.5V  $\pm$  0.075V Power Supply
- VDDQ = 1.5V  $\pm$  0.075V
- 667MHz fCK for 1333Mb/sec/pin
- 8 independent internal bank
- Programmable CAS Latency: 5,6,7,8,9,10
- Posted CAS
- Programmable Additive Latency: 0, CL - 2, or CL - 1 clock
- Programmable CAS Write Latency(CWL) = 8(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  $\pm$  1%)
- On Die Termination using ODT pin
- Average Refresh Period 7.8us at lower then TCASE 85°C, 3.9us at 85°C < TCASE . 95°C
- Asynchronous Reset
- 1066Mbps CL7 doesn't have backward compatibility with 800Mbps CL5
- PCB : Height 1.180" (30.00mm), single sided component

#### PERFORMANCE:

- |  |                   |
|--|-------------------|
| <input checked="" type="checkbox"/> CL(IDD)  | 8 cycles          |
| <input checked="" type="checkbox"/> Row Cycle Time (tRCmin)                          | 48ns (min.)       |
| <input checked="" type="checkbox"/> Refresh to Active/Refresh Command Time (tRFCmin) | 90ns              |
| <input checked="" type="checkbox"/> Row Active Time (tRASmin)                        | 36ns (min.)       |
| <input checked="" type="checkbox"/> Power  | TBD W (operating) |
| <input checked="" type="checkbox"/> UL Rating  | 94 V - 0          |
| <input checked="" type="checkbox"/> Operating Temperature                            | 0° C to 85° C     |
| <input checked="" type="checkbox"/> Storage Temperature                              | -55° C to +100° C |

**MODULE DIMENSIONS:**

