# Memory Module Specifications



### KVR16LE11/8HD

8GB 2Rx8 1G x 72-Bit PC3L-12800 CL11 240-Pin ECC DIMM

#### DESCRIPTION

ValueRAM's KVR16LE11/8 is a 1G x 72-bit (8GB) DDR3L-1600 CL11 SDRAM (Synchronous DRAM) 2Rx8, ECC, low voltage, memory module, based on eighteen 512M x 8-bit FBGA components. The SPD is programmed to JEDEC standard latency DDR3-1600 timing of 11-11-11 at 1.35V or 1.5V. This 240-pin DIMM uses gold contact fingers. The electrical and mechanical specifications are as follows:

#### **FEATURES**

- $\bullet$  JEDEC standard 1.35V (1.28V  $\sim$  1.45V) and 1.5V (1.425V  $\sim$  1.575V) Power Supply
- VDDQ = 1.35V (1.28V ~ 1.45V and 1.5V (1.425V ~ 1.575V)
- 800MHz fCK for 1600Mb/sec/pin
- 8 independent internal banks
- Programmable CAS latency: 11, 10, 9, 8, 7, 6
- Programmable Additive Latency: 0, CL 2, or CL 1 clock
- 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 than TCASE 85°C, 3.9us at 85°C < TCASE < 95°C°</li>
- Asynchronous Reset
- PCB: Height 1.180" (30.00mm), double sided component

#### **SPECIFICATIONS**

CL(IDD)	11 cycles
Row Cycle Time (tRCmin)	48.125ns(min.)
Refresh to Active/Refresh Command Time (tRFCmin)	260ns(min.)
Row Active Time (tRASmin)	35ns(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

#### **SDRAM SUPPORTED**

Hynix D-Die		
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## **MODULE DIMENSIONS**





