

## KHX8000D2/512

**512MB 64M x 64-Bit PC2-8000**

**CL5 240-Pin DIMM**

### DESCRIPTION:

This document describes Kingston's 64M x 64-bit (512MB) DDR2-1000 CL5 SDRAM (Synchronous DRAM) memory module, based on eight 64M x 8-bit DDR2 FBGA components. This module has been tested to run at DDR2 1000MHz at a latency timing of 5-5-5-15 at 2.2V. The SPD is programmed to JEDEC standard latency 800Mhz timing of 5-5-5-15 at 1.8V. This 240-pin DIMM uses gold contact fingers and requires +1.8V. The electrical and mechanical specifications are as follows:

### FEATURES:

- ✓ Power supply : Vdd: 1.8V  $\pm$  0.1V, Vddq: 1.8V  $\pm$  0.1V
- ✓ Double-data-rate architecture; two data transfers per clock cycle
- ✓ Bidirectional data strobe(DQS)
- ✓ Differential clock inputs(CK and CK)
- ✓ DLL aligns DQ and DQS transition with CK transition
- ✓ Programmable Read latency 5 (clock)
- ✓ Burst Length: 4, 8 (Interleave/nibble sequential)
- ✓ Programmable Burst type (sequential & interleave)
- ✓ Timing Reference: 5-5-5-15 at +1.8V / 5-5-5-15 at +2.2V
- ✓ Edge aligned data output, center aligned data input
- ✓ Auto & Self refresh, 7.8us refresh interval (8K/64ms refresh)
- ✓ Serial presence detect with EEPROM
- ✓ High Performance Heat Spreader
- ✓ PCB : Height 1.180" (30.00mm), single sided component

### PERFORMANCE:

- |                                                 |                               |
|-------------------------------------------------|-------------------------------|
| ✓ Clock Cycle Time (tCK) CL=5                   | 2.5ns (min.) / 8ns (max.)     |
| ✓ Row Cycle Time (tRC)                          | 51.5ns (min.)                 |
| ✓ Refresh to Active/Refresh Command Time (tRFC) | 105ns                         |
| ✓ Row Active Time (tRAS)                        | 39ns (min.) / 70,000ns (max.) |
| ✓ Single Power Supply of                        | +1.8V (+/- .1V)               |
| ✓ Power                                         | 2.682 W (operating)           |
| ✓ UL Rating                                     | 94 V - 0                      |
| ✓ Operating Temperature                         | 0° C to 55° C                 |
| ✓ Storage Temperature                           | -55° C to +125° C             |



