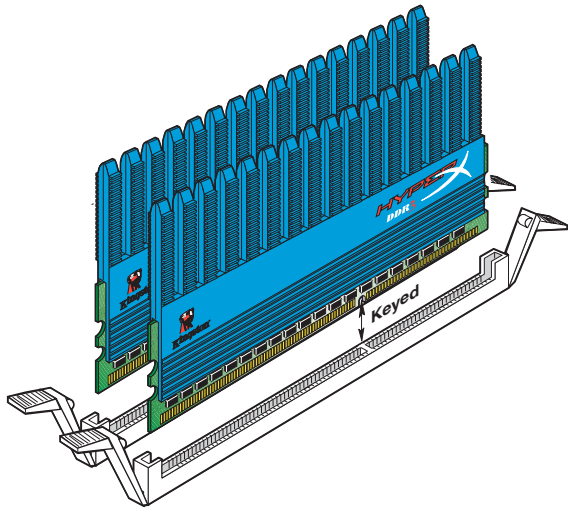


Memory Module Specifications

KHX2000C9AD3T1K2/4GX

4GB (2GB 256M x 64-Bit x 2 pcs.)
 DDR3-2000 CL9 240-Pin DIMM Kit



DESCRIPTION

Kingston's KHX2000C9AD3T1K2/4GX is a kit of two 256M x 64-bit (2GB) DDR3-2000 CL9 SDRAM (Synchronous DRAM), 2Rx8 memory modules, based on sixteen 128M x 8-bit FBGA components per module. Each module kit supports **Intel® XMP** (Extreme Memory Profiles). Total kit capacity is 4GB. Each module kit has been tested to run at DDR3-2000 at a low latency timing of 9-11-9-27 at 1.65V. The SPDs are programmed to JEDEC standard latency DDR3-1333 timing of 9-9-9 at 1.5V. Each 240-pin DIMM uses gold contact fingers. The JEDEC standard electrical and mechanical specifications are as follows:

XMP TIMING PARAMETERS

- JEDEC: DDR3-1333 CL9-9-9 @1.5V
- XMP Profile #1: D3-2000 CL9-11-9-27 @1.65V
- XMP Profile #2: D3-1866 CL9-11-9-27 @1.65V

SPECIFICATIONS

CL(IDD)	9 cycles
Row Cycle Time (tRCmin)	49.5ns (min.)
Refresh to Active/Refresh Command Time (tRFCmin)	110ns (min.)
Row Active Time (tRASmin)	36ns (min.)
Power (Operating)	1.800 W* (per module)
UL Rating	94 V - 0
Operating Temperature	0° C to 85° C
Storage Temperature	-55° C to +100° C

*Power will vary depending on the SDRAM used.

FEATURES

- JEDEC standard 1.5V (1.425V ~ 1.575V) Power Supply
- VDDQ = 1.5V (1.425V ~ 1.575V)
- 667MHz fCK for 1333Mb/sec/pin
- 8 independent internal bank
- Programmable CAS Latency: 9, 8, 7, 6
- 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
- Average Refresh Period 7.8us at lower than TCASE 85°C, 3.9us at 85°C < TCASE ≤ 95°C
- Asynchronous Reset
- PCB : Height 2.401" (61.00mm) w/ heatsink, double sided component

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