



## KHX2000C9D3T1K3/12GX 12GB (4GB 512M x 64-Bit x 3 pcs.) DDR3-2000MHz CL9 240-Pin DIMM Kit

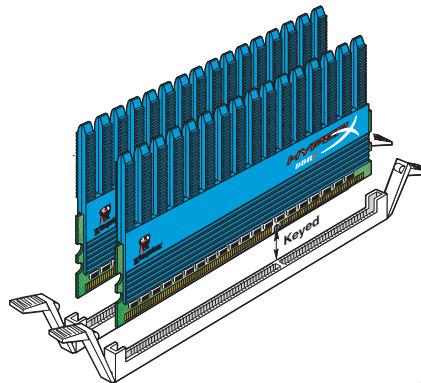
### DESCRIPTION:

Kingston's KHX2000C9D3T1K3/12GX is a kit of three 512M x 64-bit (4GB) DDR3-2000MHz CL9 SDRAM (Synchronous DRAM) memory modules, based on sixteen 256M x 8-bit DDR3 FBGA components per module. Each module kit supports Intel® XMP (Extreme Memory Profiles). Total kit capacity is 12GB. Each module has been tested to run at DDR3-2000MHz at a low latency timing of 9-10-9-27 at 1.65V. The SPDs are programmed to JEDEC standard latency DDR3-1333MHz timing of 9-9-9 at 1.5V. Each 240-pin DIMM uses gold contact fingers and requires +1.5V. The JEDEC standard electrical and mechanical specifications are as follows:

### FEATURES:

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- 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) = 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  $\pm$  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
- PCB : Height 2.401" (61.00mm) w/ heatsink, double sided component



### PERFORMANCE:

<input checked="" type="checkbox"/> CL(IDD)	9 cycles
<input checked="" type="checkbox"/> Row Cycle Time (tRCmin)	49.5ns (min.)
<input checked="" type="checkbox"/> Refresh to Active/Refresh Command Time (tRFCmin)	160ns
<input checked="" type="checkbox"/> Row Active Time (tRASmin)	36ns (min.)
<input checked="" type="checkbox"/> Power	1.875 W (operating per module)
<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:**