



## KHX1600C9D3K3/12GX

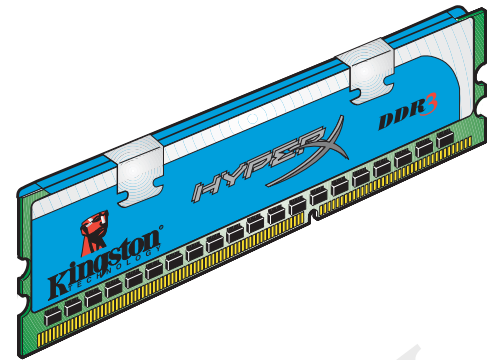
**12GB (4GB 512M x 64-Bit x 3 pcs.) DDR3-1600MHz  
CL9 240-Pin DIMM Kit**

### DESCRIPTION:

Kingston's KHX1600C9D3K3/12GX is a kit of three 512M x 64-bit 4GB (4096MB) DDR3-1600MHz 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 3GB. Each module kit has been tested to run at DDR3-1600MHz at a low latency timing of 9-9-9-27 at 1.65V. The SPDs are programmed to JEDEC standard latency DDR3-1066MHz timing of 7-7-7 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:

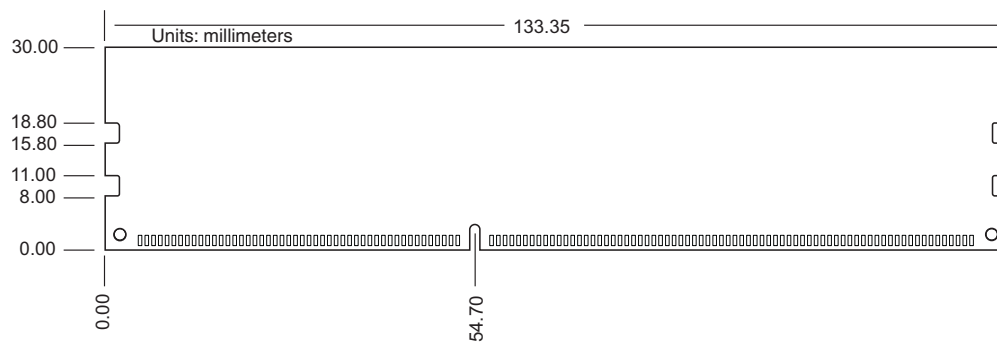
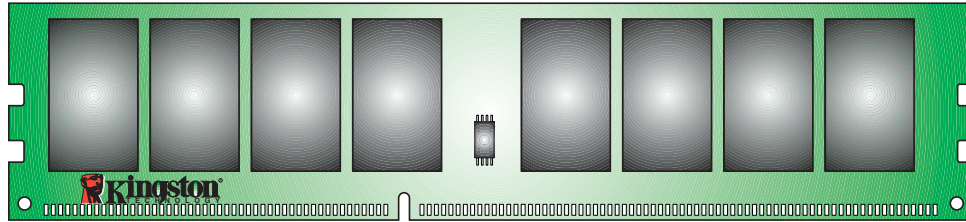
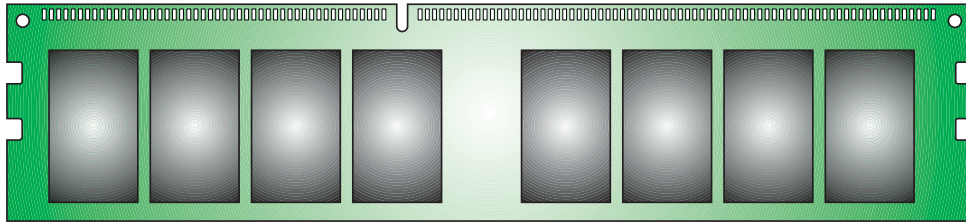
### FEATURES:

- JEDEC standard 1.5V ± 0.075V Power Supply
- VDDQ = 1.5V ± 0.075V
- 533MHz fCK for 1066Mb/sec/pin
- 8 independent internal bank
- Programmable CAS Latency: 6,7,8,9
- Posted CAS
- Programmable Additive Latency: 0, CL - 2, or CL - 1 clock
- Programmable CAS Write Latency(CWL) = 6(DDR3-1066)
- 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 then TCASE 85°C, 3.9us at 85°C < TCASE . 95°C
- Asynchronous Reset
- PCB : Height 1.180" (30.00mm), double sided component



### PERFORMANCE:

- |  |                                |
|--|--------------------------------|
| <input checked="" type="checkbox"/> CL(IDD)  | 7 cycles                       |
| <input checked="" type="checkbox"/> Row Cycle Time (tRCmin)                          | 50.63ns (min.)                 |
| <input checked="" type="checkbox"/> Refresh to Active/Refresh Command Time (tRFCmin) | 160ns                          |
| <input checked="" type="checkbox"/> Row Active Time (tRASmin)                        | 37.5ns (min.)                  |
| <input checked="" type="checkbox"/> Power  | 1.320 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:**

w/ heatsink assembly

