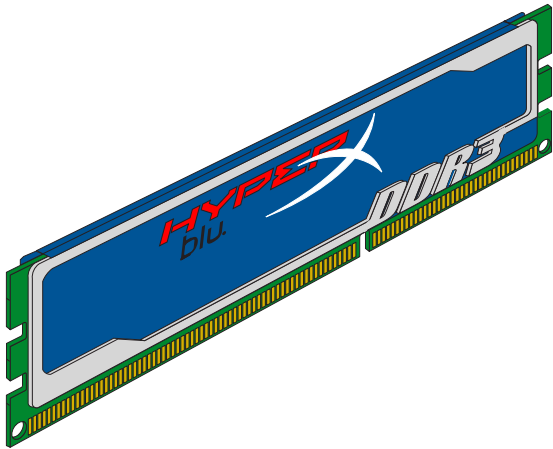


# Memory Module Specifications

## KHX1600C9AD3B1/2G

2GB 256M x 64-Bit DDR3-1600MHz

CL9 240-Pin DIMM



### DESCRIPTION

This document describes Kingston's 256M x 64-bit 2GB (2048MB) DDR3-1600MHz CL9 SDRAM (Synchronous DRAM) memory module, based on sixteen 128M x 8-bit DDR3 FBGA components. This module has been tested to run at DDR3-1600MHz at a low latency timing of 9-9-9-27 at 1.65V. The SPD is programmed to JEDEC standard latency DDR3-1333MHz timing of 9-9-9 at 1.5V. This 240 pin DIMM uses gold contact fingers and requires +1.5V. The JEDEC standard electrical and mechanical specifications are as follows:

### SPECIFICATIONS

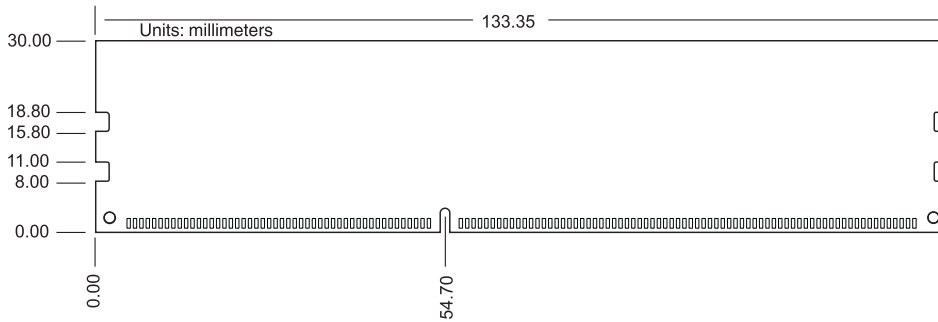
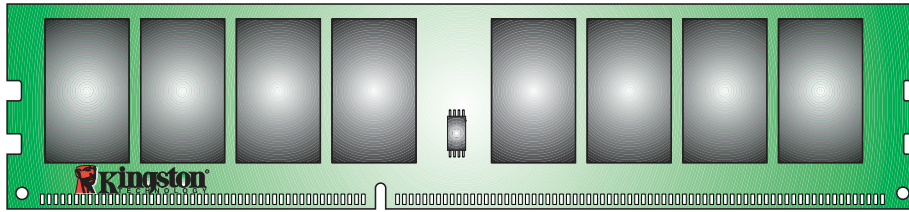
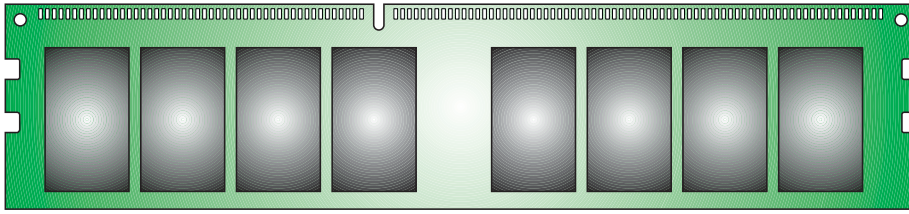
CL(IDD)	9 cycles
Row Cycle Time (tRCmin)	49.5ns (min.)
Refresh to Active/Refresh Command Time (tRFCmin)	110ns
Row Active Time (tRASmin)	36ns (min.)
Power	1.800 W (operating)
UL Rating	94 V - 0
Operating Temperature	0° C to 85° C
Storage Temperature	-55° C to +100° C

### FEATURES

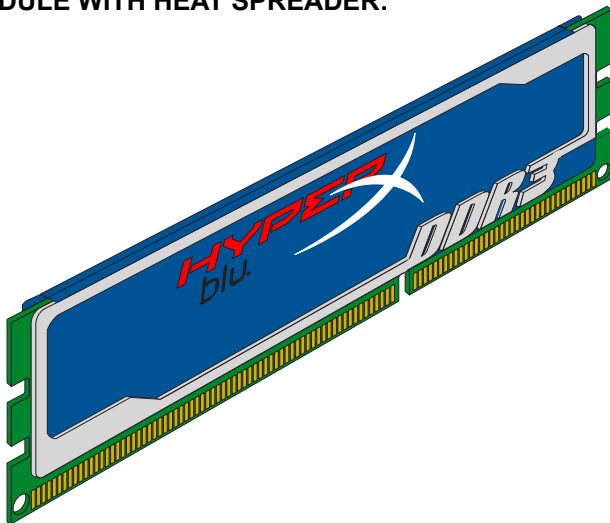
- JEDEC standard 1.5V ± 0.075V Power Supply
- VDDQ = 1.5V ± 0.075V
- 667MHz fCK for 1333Mb/sec/pin
- 8 independent internal bank
- Programmable CAS Latency: 5,6,7,8,9,10
- Posted CAS
- Programmable Additive Latency: 0, CL - 2, or CL - 1 clock
- Programmable CAS Write Latency(CWL) = 7(DDR3-1333)
- 8-bit 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 ± 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 1.180" (30.00mm), double sided component

Continued >>

**MODULE DIMENSIONS:**



**MODULE WITH HEAT SPREADER:**



FOR MORE INFORMATION, GO TO [WWW.KINGSTON.COM](http://WWW.KINGSTON.COM)

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