# **Memory Module Specifications**



# KF316LS9IB/4

4GB 512M x 64-Bit DDR3L-1600 CL9 204-Pin SODIMM



## **SPECIFICATIONS**

CL(IDD)	9 cycles
Row Cycle Time (tRCmin)	48.125ns(min.)
Refresh to Active/Refresh Command Time (tRFCmin)	260ns(min.)
Row Active Time (tRASmin)	33.75ns(min.)
UL Rating	94 V - 0
Operating Temperature	0° C to +85° C
Storage Temperature	-55° C to +100° C

#### DESCRIPTION

Kingston FURY KF316LS9IB/4 is a 512M x 64-bit (4GB) DDR3L-1600 CL9 SDRAM (Synchronous DRAM) 1Rx8, memory module, based on eight 512M x 8-bit FBGA components per module. Each module has been tested to run at DDR3L-1600 at a low latency timing of 9-9-9 at 1.35V or 1.5V. Additional timing parameters are shown in the Plug-N-Play (PnP) Timing Parameters section below. The JEDEC standard electrical and mechanical specifications are as follows:

**Note:** The PnP feature offers a range of speed and timing options to support the widest variety of processors and chipsets. Your maximum speed will be determined by your BIOS.

# **FACTORY TIMING PARAMETERS**

Default (Plug N Play): DDR3-1600 CL9-9-9 @ 1.35V or 1.5V DDR3-1333 CL8-8-8 @ 1.35V or 1.5V DDR3-1066 CL6-6-6 @ 1.35V or 1.5V

#### **FEATURES**

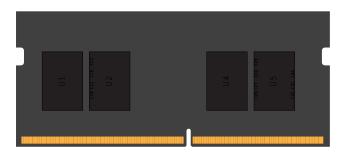
- JEDEC standard 1.35V and 1.5V Power Supply
- VDDQ = 1.35V and 1.5V
- 800MHz fCK for 1600Mb/sec/pin
- 8 independent internal bank
- Programmable CAS Latency: 11, 10, 9, 8, 7, 6
- Programmable Additive Latency: 0, CL 2, or CL 1 clock
- 8-bit pre-fetch
- Burst Length: 8 (Interleave without any limit, 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</li>
- Asynchronous Reset
- Height 1.180" (30mm) w/heatsink

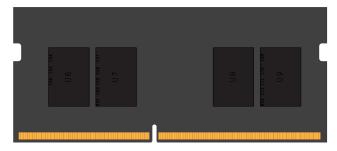
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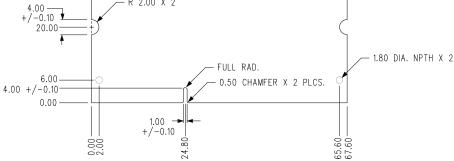
#### **MODULE DIMENSIONS**

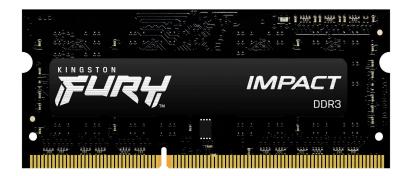




#### All measurements are in millimeters. (Tolerances on all dimensions are ±0.12 unless otherwise specified)

R 2.00 X 2





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