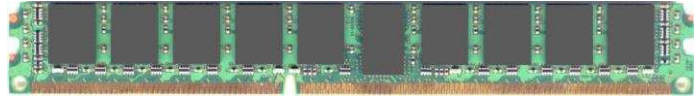


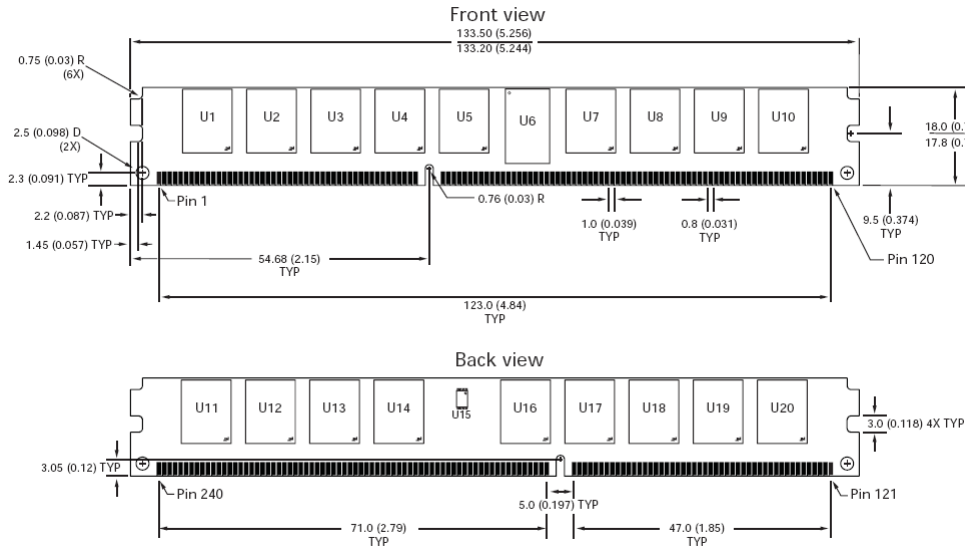
Products in Family

GRIHS23S/4GB (1 x 4GB 1R VLP DIMM)
 GRIHS23/4GB (1 x 4GB 2R VLP DIMM)
 GRIHS23/8GB (1 x 8GB 2R VLP DIMM)
 GRIHS238/8GB (1 x 8GB 2R VLP DIMM)
 GRIHS23S/8GB (1 x 8GB 1R VLP DIMM)
 GRIHS23/16GB (1 x 16GB 2R VLP DIMM)



Features	Description
240-pin JEDEC-compliant Very Low Profile (VLP) DIMMs 133.35 mm wide by 18.7 mm high (.738" x 5.25") Data Transfer Rate: up to 12.8 Gigabytes/sec Operating Voltage: 1.5 V ±0.075 Error Checking and Correction (ECC) bits Supports Intel SDDC and Chipkill Advanced ECC Features Fully RoHS Compliant	Each GRIHS23 upgrade consists of a matched pair of DDR3 Registered VLP DIMMs with address/command parity functionality. One 2K-bit EEPROM is used for Serial Presence Detect and a combination register/PLL with Address and Command Parity is also used. A thermal sensor accurately monitors the DIMM module and can prevent exceeding the maximum operating temperature of 95C.

Dataram Product	IBM Product	Produce Description:
GRIHS23S/4GB	90Y3147	4GB 1Rx4 PC3-12800R-11
GRIHS23/4GB	90Y3148	4GB 2Rx8 PC3-12800R-11
GRIHS23/8GB	90Y3149	8GB 2Rx4 PC3-12800R-11
GRIHS238/8GB	00D4993	8GB 2Rx8 PC3-12800R-11
GRIHS23S/8GB	00D4989	8GB 1Rx4 PC3-12800R-11
GRIHS23/16GB	90Y3157	16GB 2Rx4 PC3-12800R-11



Notes

Tolerances on all dimensions except where otherwise indicated are ±.13 (.005). All dimensions are expressed in millimeters.