

SMART DDR4-3200 NVDIMMs for AI and ML

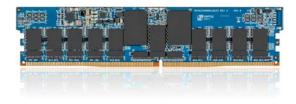
The constant increase in data creation used in Artificial Intelligence (AI) and Machine Learning (ML) applications requires fast interpretation for it to be useful. Unfortunately, traditional systems are not designed to address the challenge of accessing data sets while creating and storing the machine learning algorithms needed to interpret the data. NVDIMMs, or Persistent Memory, are an ideal solution that dramatically accelerates system performance for AI and ML applications.

Solutions

- Artificial intelligence and machine learning applications take advantage of persistent memory to eliminate bottlenecks and accelerate performance
- Persistent Memory adds a fast access tier for storage applications.
 NVDIMMs are at the same tier as DRAM
- NVDIMMs are for write cache acceleration in All Flash Arrays. Many AL and ML applications use All Flash Arrays with NVDIMMs
- NVDIMMs provide Instant, byte-level access for developing training models used for machine learning data sets
- NVDIMMs provide very low latency tiering, caching, write buffering and metadata storage capabilities for Al application acceleration
- NVDIMMs are also used by cloud data centers to reduce their OS server crash recovery time

NVDIMM Features

- DIMM Form Factor, 16GB, 32GB, DDR4-3200
- Throughput of 25.6GB/s
- Latency ~20ns (DRAM)
- · AES 256 bit Encryption
- · Autonomous Self Refresh
- · Digitally Signed Firmware





- SMART offers a variety of Backup Energy Source Modules
- These are used for hold up power while data is being transferred from DRAM to Flash on the NVDIMM

DDR5 Ordering Information

| 288-PIN - DDR5 RDII | мм | | | | | | | |
|---------------------|---------|-------------|---------------|----------------------|----------|---------|--------------|--------------|
| SMART Part Number | Density | Height (mm) | Module Config | Device Config | Speed | Voltage | Temp | Temp |
| SR4G8RD5285SB | 32GB | 31.25 | 4Gb x80 | 2Gx8 | 4800MT/s | 1.1V | 0°C to +70°C | 0°C to +70°C |
| SR4G8RD5285MA | 32GB | 31.25 | 4Gb x80 | 2Gx8 | 4800MT/s | 1.1V | 0°C to +70°C | 0°C to +70°C |

DDR4 Ordering Information

| 288-PIN - DDR4 RDIM | IM | | | | | | | |
|---------------------|---------|-------------|----------------------|----------------------|----------|---------|----------------|--------------|
| SMART Part Number | Density | Height (mm) | Module Config | Device Config | Speed | Voltage | Temp | Temp |
| ST8197RD440425HC | 64GB | 31.25 | 8Gb x72 | 4Gx4 | 3200MT/s | 1.2V | 0°C to +70°C | 0°C to +70°C |
| ST8197RD420893MF | 64GB | 24.40 | 8Gb x72 | 2Gx8 | 2666MT/s | 1.2V | 0°C to +70°C | 0°C to +70°C |
| ST4097RD420825SC | 32GB | 31.25 | 4Gb x72 | 2Gx8 | 3200MT/s | 1.2V | 0°C to +70°C | 0°C to +70°C |
| STI4097RD420825MF | 32GB | 31.25 | 4Gb x72 | 2Gx8 | 3200MT/s | 1.2V | -40°C to +85°C | 0°C to +70°C |
| STT4097RD420825MF | 32GB | 31.25 | 4Gb x72 | 2Gx8 | 3200MT/s | 1.2V | -40°C to +85°C | 0°C to +70°C |
| STI4097RD420493SC | 32GB | 31.25 | 4Gb x72 | 2Gx4 | 2666MT/s | 1.2V | -40°C to +85°C | 0°C to +70°C |
| ST4097RD420493SC | 32GB | 31.25 | 4Gb x72 | 2Gx4 | 2666MT/s | 1.2V | 0°C to +70°C | 0°C to +70°C |

DDR4 NVDIMM Backup Power Module Ordering Information

| SMART Part Number | Description/Form Factor | DDR4 NVDIMM Supported | |
|--------------------|-------------------------------------|-----------------------|----------------|
| STCA8062SMTH061B | 2.5" | 32GB | |
| STCA8062SMTH062B | 2.5" | Two 16GBs | |
| STC22041SMTD051B | 2.5" | 16GB | |
| STC48042SMTDE81BVG | HHHL PCle (Half Height Half Length) | 32GB | Illine |
| STC48042SMTDE82BVG | HHHL PCIe (Half Height Half Length) | Two 16GBs | and the second |
| STC54061INTH011B | Half-width (hybrid) | 16GB | |
| STC36041INTH011B | Half-width (hybrid) | 8GB | 1 |
| STC54061SMCH021B | Half-width low profile (hybrid) | 16GB | · C |
| STC24041SMCD011B | Half-width (supercap) | 16GB | |



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