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.

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

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 AI application acceleration

- NVDIMMs are also used by cloud data centers to reduce their OS server crash recovery time

- 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 RDIMM								
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 RDIMM								
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 PCIe (Half Height Half Length)	32GB	
STC48042SMTDE82BVG	HHHL PCIe (Half Height Half Length)	Two 16GBs	
STC54061INTH011B	Half-width (hybrid)	16GB	
STC36041INTH011B	Half-width (hybrid)	8GB	
STC54061SMCH021B	Half-width low profile (hybrid)	16GB	
STC24041SMCD011B	Half-width (supercap)	16GB	

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For more information, please visit: **www.smartm.com**