



Advanced Memory

DDR4 NVDIMM

SMART Modular's DDR4 NVDIMMs combine non-volatile memory functionality with high speed DDR4 DRAM technology. DDR4 NVDIMMs provide a persistent memory solution to significantly accelerate application performance in server and storage appliances.

SMART Modular's DDR4 NVDIMM feature proprietary SafeStor™ technology, the engine which initiates backup and restore operations upon command from the host controller. The NVDIMM also support multiple command delivery options to trigger SafeStor™ backup during a host detected power outage and recovery events. The SafeStor™ engine also employs multi-channel NAND Flash and high-speed switching circuitry to provide robust backup and restore capability, all while functioning as a JEDEC standard DDR4 RDIMM during normal operation.

SMART Modular offers NVDIMMs with encryption for high security applications where data protection is required. NVDIMMs also use the AES-XTS 256 standard (Advanced Encryption Standard) developed by the IEEE. AES is used to encrypt secure data at government agencies, banks, and other organizations around the world and is regarded as one of the strongest encryption methods in existence.

NVDIMMs support Autonomous Self Refresh (ASR). SMART's patented ASR feature allows the NVDIMM to independently initiate a backup in the event of an OS crash (operating system), CPU fault, MCU fault (Memory Controller Unit), BIOS hang, blue screen, or other motherboard failures which result in a hang without power loss where the customer has data in the DIMM that they want to save and recover after a system is reset to recover from the hang.

Features & Benefits

- Fits standard 288-pin DIMM socket
- During normal operation, NVDIMM will function as a standard RDIMM module
- During a power loss, the contents of the DRAM are automatically backed up to Flash
- NVDIMM with Encryption also offered as an option



Applications

High performance servers

- Database and analytics servers
- High performance replacement for existing NVRAM PCIe cards
- Journaling & check-pointing for In-memory databases
- Real-time response in financial trading & social media





High Performance Storage Servers

- SAN appliances and arrays
- NAS filers
- Distributed storage systems
- High performance replacement for existing NVRAM PCIe cards
- Tiering and caching
- Meta data storage
- SSD address mapping table

Ordering Information

288 PIN - DDR4 NVDIMM								
SMART Part Number	Density	Height (mm)	Module Config	Device Config	Speed	Voltage	Command Set	Temp
ST4097NJP40425MF	32GB	31.25	4Gb x72	4Gx4	3200MT/s	1.2V	JEDEC	0°C to +70°C
ST2047NJ420425HE	16GB	31.25	2Gb x72	2Gx4	3200MT/s	1.2V	JEDEC	0°C to +70°C
ST2047NJP20425MR	16GB	31.25	2Gb x72	2Gx4	3200MT/s	1.2V	JEDEC	0°C to +70°C
ST1027NJ410493SE1	8GB	31.25	1Gb x72	1Gx4	2666MT/s	1.2V	JEDEC	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	



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

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