DDR4 NVDIMM-N
KOMODO

KOMODO nonvolatile memory modules blur the lines between storage and memory to meet the increasingly pressing need for high-performance persistent memory to enable scalable compute and storage applications. Based on the JEDEC specifications for NVDIMM-N, KOMODO combines industry-standard DDR4 DRAM and NAND Flash technology, providing the low latency and near-infinite endurance of DRAM, along with the non-volatility of Flash. KOMODO NVDIMMs also pair with PowerGEM® energy modules, intelligent power supplies utilizing supercapacitor technology for an environmentally friendly solution when compared to batteries. Together, they offer a persistent memory solution that is unparalleled in performance and reliability when compared to existing alternatives.

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Key Features

- Meets JEDEC standards for NVDIMM-N Nonvolatile Dual Inline Memory Modules
- Highly reliable persistent memory solution
- DRAM, Flash, Controller and Power Management integrated in a single module
- Unlimited write endurance
- Up to DDR4-3200 speed
- Supports SDRAM ECC error detection and correction by host memory controller
- In-system health monitoring
- Automatic history tracking: tracks critical internal system parameters

Order Information

Komodo1-16

16GB, pull-up on SAVE_n	AGIGA8811-016ACA
16GB, no pull-up	AGIGA8811-016ACB

Komodo1-32

32GB, pull-up on SAVE_n	AGIGA8811-032ACA
32GB, no pull-up	AGIGA8811-016ACB

Specifications

DRAM Module	
Memory Technology	DDR4
JEDEC Module Type	NVDIMM-N
NAND Type	pSLC (TLC)
Speed	Up to 3200 MT/s
CAS Latency	Up to CL22
DRAM Capacity	16GB/ 32GB
Rank x Org.	1rank x 4
Component Composition	16GB: 2Gx4/ 32GB: 4Gx4
Voltage	1.2V
Pin Count	288pin
PCB Height	31.25 mm
Data Save Time	< 40s (typical)
Data Restore Time	< 40s (typical)
Power Consumption	
Active Read	5W
Active Write	7W
Standby	1.5W
Operating Environment	
Operating Temperature	0°C ~ 85°C
Storage Temperature	-40°C ~ 95°C

Detailed Product Info

Bandwidth			Up to 3200 MT/s	
Configuration			1Rank x4	
Memory	DRAM	Density	16GB	32GB
	NAND	Density[1]	32GB	64GB
		Type	p-SLC (TLC)	
Data Back-up [2,3]	Save Time		34s	
	Restore Time		38s	
PowerGEM Supercap Module	Operating temp.		Up to 55°C	
	Capacity[4]		140J	210J
	Lifetime		5 years (typical)	
	Certifications[5]		RoHS, REACH, cUL, CB, CE	

1. NAND density reflects the density in p-SLC mode. 2. Typical save/restore times. 3. Restore time impacted by NAND ECC#, so may increase over time as the NAND wears. 4. Energy requirement to support NVDIMM backup at EOL. 2 NAND. 5. cUL covers UL and CSA.

Memory Hierarchy

Lowest Latency
Higher Cost

Load/ Store Application
Direct Access

File System Application
Block Access

Highest Latency
Lower Cost

CPU

Registers

Cache

DRAM

KOMODO

Persistent Memory

Persistent Memory

NAND Flash

Magnetic

Access Times