# imall

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With the principle of "Quality Parts, Customers Priority, Honest Operation, and Considerate Service", our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip, ALPS, ROHM, Xilinx, Pulse, ON, Everlight and Freescale. Main products comprise IC, Modules, Potentiometer, IC Socket, Relay, Connector. Our parts cover such applications as commercial, industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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# NV1600 Flashtec NVRAM Drive Family NV1616, NV1608, NV1604

The Microsemi Flashtec NVRAM Drive family provides a PCI Express NVRAM solution based on the most advanced NVMe controller on the market. This family provides a new level of performance to the memory/storage hierarchy, ushering storage system OEMs, cloud applications, and service providers for the era of storage class memory.

### **Establishes New Storage Tier with Superior Performance**

- Non-volatile DRAM-like performance, NAND persistence
- Over 10 million IOPS
- Sub-microsecond latency

#### Faster Time-to-Market and Lower Cost of Ownership

- Industry-standard interfaces
- Application-friendly for ease of integration
- Zero maintenance green backup
- "Enterprise Class" for mission-critical data center
- Uncompromising quality and reliability
- Unlimited endurance NVRAM
- Small form factor for high-density rack solutions

#### Included

- Add-in card
- SCM-F100/F70/F35 module and cable

## **Cloud-Scale Performance and Availability**

While SSD solutions continue to replace traditional HDDs in the performance tier of the storage hierarchy, there remains a significant performance gap between the memory tiers and the storage tiers in terms of latency, endurance, and high availability. As application demands continue to increase at an ever growing pace to keep up with the growth rate of cloud services, relying on volatile memory to achieve desired performance leaves applications vulnerable to data loss in the event of a system failure.

There is a need for a new tier of memory that provides missioncritical applications the necessary safety net for their data while keeping pace with the application requirements for performance without compromising data protection, reliability, and availability.

Flashtec NVRAM Drive products serve exactly that need, and with >10 M IOPS and up to 16 GB of memory per card, the product family can address the needs of the most demanding applications.



# **Applications**

- Write cache for low-latency response time
- 64-bit addressable persistent metadata memory region
- Persistent shared memory for scale-out clustered systems
- High performance journaling or write ahead logging
- Persistent cache for fast cache rebuild
- Performance tier de-staging to sequential-access capacity tier

### **Benefits**

- Unlimited Endurance: Unlike SSDs, DRAM has practically unlimited endurance, and with up to 16 GB of non-volatile DRAM memory, NV1600 drives can fit very demanding workloads as well.
- High Performance I/O: 1 million IOPS in NVMe block mode (4 KB); over 10 million IOPS in direct memory mode.
- Power Failure Protection: Flash-based backup unit protects DRAM content in the event of a power failure.
- Higher Availability: A fast backup and recovery cycle ensures that mission critical applications will have a shorter recovery time across power failure events.
- Lower Total Cost of Ownership: Eliminating the UPS or BBU frees up rack space and reduces support and maintenance cost without compromising critical system data across power failures.

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# NV1600 Flashtec NVRAM Drive Family NV1616, NV1608, NV1604

General Features			
Host Interface	x8 lane		
PCI Express	3.0		
Form Factor	Low profile MD2 PCIe add-in card		
Access Modes	Block mode and direct memory mode		
Memory Capacity	4/8/16 GB configurations		
Backup Store	Flash module		
Data Retention Offline	3 months		
No. of Backup Images	Two backup image banks		
Backup Power Supply	Tethered super capacitor module		
Auxiliary Power	Optional 5 V input		
Restore Time	< 15 sec		
Backup Time	< 20 sec		
Backup Cycles	> 3000		
Management Interface	NVMe		
Monitoring and Alerts	Yes		
Hardware Support			
Driver Support Industry	Supported NVMe drivers		
Application Support	NV-lib for application integration		
Data Protection & Security			
Authentication	Optional host authentication sequence		
Mechanical & Environmental			
Form Factor	MD2 low profile PCIe card		
<b>Operating Temperature</b>	0 °C to 50 °C @ 200 LFM		
Power Consumption	<20 W typical; 5 W idle		
Reliability			
Maintenance	No maintenance required		
<b>Operational Lifetime</b>	5 years		
Compliance & Certification			
NVMe.org	NVMe 1.0 compatible		
PCIe SIG	Certified		

Ordering Information		
Model	Description	PN
NV1616	16 GB NVRAM PCIe drive and SCM- F100 bulk	2286100-R
NV1608	8 GB NVRAM PCIe drive and SCM- F70 bulk	2285500-R
NV1604	4 GB NVRAM PCIe drive and SCM- F35 bulk	2285400-R

#### **Block Mode Access**



#### **Direct Memory Access**





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