SMART’s Memory Solutions

**DDR3 NVDIMM**

SMART has developed a family of NVDIMMs targeted for RAID storage applications. During normal operation, the NVDIMM will function as a standard RDIMM module, but during a system power interruption, the NVDIMM backup the DRAM contents into on-board Flash with no need for batteries. When the power is restored, the contents of the Flash are transferred back into the DRAM with no loss of critical data.

**Application**
- Nonvolatile cache backup for RAID storage systems

**Benefits**
- Eliminates need for batteries and their associated issues (cost, maintenance, environmental, etc)
- Eliminates need to maintain a duplicate cache memory subsystem separate from main memory
- Simplifies memory system design
- Allows for increased cache backup size
- Saves costs and space

**Key Features & Specs**
- 240-PIN NVDIMM (2GB 1R x8, 4GB 1R x8, 8GB 2R x8)
- 244-PIN Mini-NVDIMM (2GB 1R x8, 4GB 1R x8)
- Fits standard 240-pin & 244-pin form factors
- During normal operation, NVDIMM will function as a standard RDIMM module (supports JEDEC standard SPD Data)
- System upon power-loss, must place the DRAM in self-refresh operation (in current design offering)
- Backup initiated using either side-band signals or I2C interface
- DDR3 Mode Register values will be restored during hand-off
- Brown-out or power-glitch (return of power during backup) is supported
- Restore also initiated using either side-band signals or I2C interface
- Once restore is complete, on-board FPGA will set the flag and turn on the busswitches for system to take over normal operation
- 4GB backup in 34 seconds
- Greater than 10 year life span operating at 70°C ambient temperature.
- Greater than 10 year unpowered data retention.
- Able to monitor external power supply controllers for state-of-health monitoring.
- Able to survive multiple power glitches without losing protected data.

SMART’s supercap modules are available in three form factors: PCIe, SSD and BBU.
## Ordering Information

<table>
<thead>
<tr>
<th>SMART Part Number</th>
<th>Density</th>
<th>Height (mm)</th>
<th>Module Config.</th>
<th>Device Type</th>
<th>Voltage</th>
<th>Speed</th>
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<tbody>
<tr>
<td>SH1027NV351816HB/SD</td>
<td>8GB</td>
<td>30</td>
<td>1Gx72</td>
<td>512Mx8</td>
<td>1.35V</td>
<td>1600 MHz</td>
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<td>512Mx72</td>
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<td>1.5V</td>
<td>1333 MHz</td>
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<tr>
<td>SH2567NV325816NFV</td>
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