



AGIGARAM™ DDR2 Non-Volatile System

FEATURES

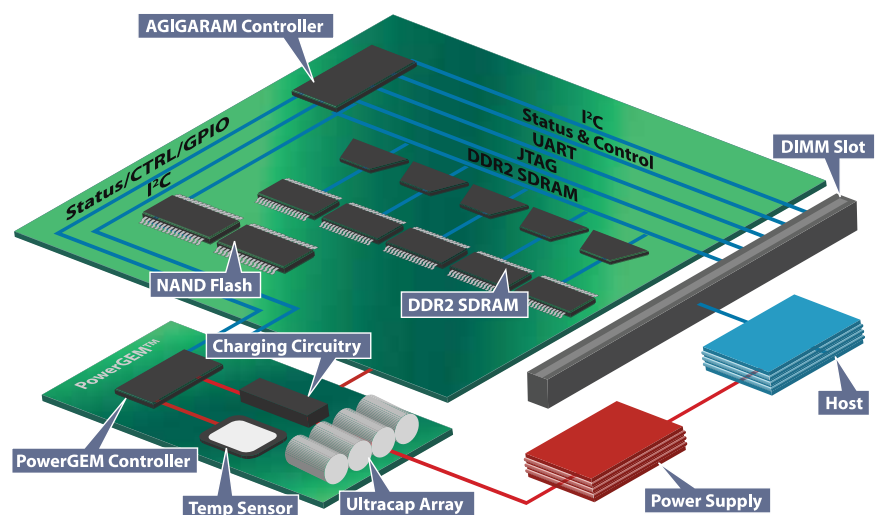
- Up to 1 GB non-volatile RAM with DDR2 interface
- High-speed DDR2 SDRAM interface, up to DDR2-800
- Integrated flash management with ECC
- PowerGEM battery-free power source
- Unlimited read and write cycles, no wear issues
- Up to ten years data retention
- Fast save and restore times
- AGIGASAFE™ control protocol
- In-system health monitoring and tracking
- 244 pin mini-RDIMM form factor (custom form factors available)
- Operating temperature range - 0 °C to 70 °C
- Up to ten years operating life

APPLICATIONS

- RAID storage
- Servers
- Data deduplication
- Workstations
- Embedded systems
- Communication and networking
- Industrial systems and machines
- Medical devices and systems

The AGIGARAM™ DDR2 product family merges NAND Flash, DDR2 SDRAM and an ultracapacitor power source (PowerGEM™) into a highly reliable non-volatile memory system, supporting densities up to 1 GB at DDR2-800 speeds. The innovative memory subsystem delivers unlimited read/write performance at RAM speeds, while also safely backing up all DRAM data when power is interrupted.

When used as a write cache in high-performance RAID and enterprise storage systems, AGIGARAM DDR2 provides a performance-boosting building block while guarding against power failures and consequent loss of critical data. In addition, the use of a battery-free power source eliminates many of the issues associated with battery-backed solutions such as hazardous material disposal, increased design complexity, long charge times, limited operating life, and a high total cost of ownership.



To know more visit www.agigatech.com

AGIGARAM Operation

During normal operation, the AGIGARAM system appears as a DDR2 registered DIMM to the host system, providing all the benefits and speed of a standard high-speed, high-density SDRAM. In the event of a power loss, the AGIGARAM system can be commanded to take control of the SDRAM and transfer its contents to Flash memory using energy from its ultracapacitor power source, thereby preserving all the SDRAM data. After power is restored, the AGIGARAM system can be commanded to transfer the contents back into the SDRAM and returns control to the host system. The battery-free power source is re-charged in seconds, not hours.

This functionality can be used for power interruption/loss immunity, write caching and posting, data logging and journaling, instant-on recovery, and service and maintenance processing.

AGIGARAM Components

The AGIGARAM DDR2 Non-Volatile System has two key components:

AGIGARAM Memory Module: available in standard and custom form factors, the memory module integrates standard DDR2 SDRAM with NAND Flash and a system controller.

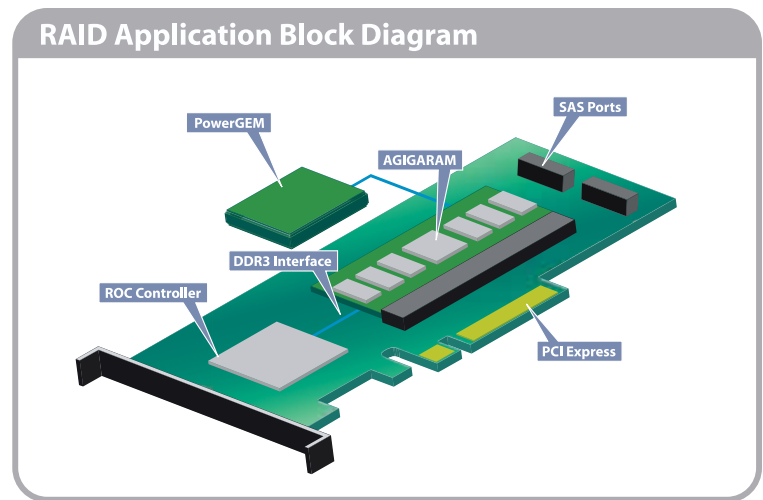
PowerGEM Green Energy Module: an intelligent power supply utilizing ultracapacitor technology as the power source. Designed for high reliability, the ultracapacitors have been selected from extensive life testing.



The entire AGIGARAM Non-Volatile System (NVS) implements the AGIGASAFE™ control protocol, a simple to use host-controlled I²C programming interface developed by AgigA Tech that ensures safe, reliable, secure operation at the system-level. This protocol allows fine control over system “internals” such as managing the NAND Flash while providing precise health monitoring and tracking. The complex system readiness has also been reduced to a single “Good To Go” (or GTG) signal.

APPLICATION EXAMPLE: RAID CACHE

IT managers know that integrating a RAID controller cache increases system performance by reducing latency of I/O requests. Even milliseconds of latency can cost companies millions of dollars in lost revenue. One drawback of RAID caching is that data is stored in volatile memory and can be lost when a system power outage occurs. For years, the answer to this was to implement a costly and bulky battery backup unit (BBU) which holds the data in the event of a power loss, but requires long charging cycles and has a short shelf life. AGIGARAM technology offers unparalleled data protection while eliminating many of the issues associated with battery-based systems.



SUPPORT INFORMATION

For more information, contact info@agigatech.com

To learn more visit www.agigatech.com

Agiga Tech Inc
12700 Stowe Drive, Suite 280
Poway, CA 92064 USA
Phone: +1 858.375.4530 Fax: +1 858.391.0025