

# GEM200 Guardian Enclosure Management Controller

## Data Sheet

### Features

- Low-cost, single-chip solution for comprehensive management of server and storage enclosures
- Compliance with *SCSI Accessed Fault Tolerant Enclosures* (SAF-TE) specification, version 1.00 and addendum
- Reports enclosure configuration and status
- Monitors storage devices, fans, power supplies, and temperature
- Controls indicators (for example, LEDs and audible alarms)
- Implemented as a standard SCSI target for easy integration and compatibility
- Connects to the host using a standard, single-ended SCSI cable
- Multiple GEM200-equipped enclosures can reside on a SCSI bus
- Vendor-unique, pass-thru mode allows for extensive vendor customizing

### Product Description

The GEM200 controller chip is a low-cost, single-chip solution that provides the control logic needed to monitor and manage the physical and environmental characteristics of a SCSI storage enclosure. This chip is implemented as a standard SCSI target and supports the SAF-TE specification. The GEM200 accepts input from external sensors and detects the presence or absence of storage devices, power supplies, and fans (the operational status of the power supplies and fans is also monitored). The chip also monitors temperature conditions within the enclosure (external temperature sensors are required). The GEM200 allows the host to control audible alarms and visual indicators in the enclosure. The GEM200 block diagram is illustrated in figure 1.

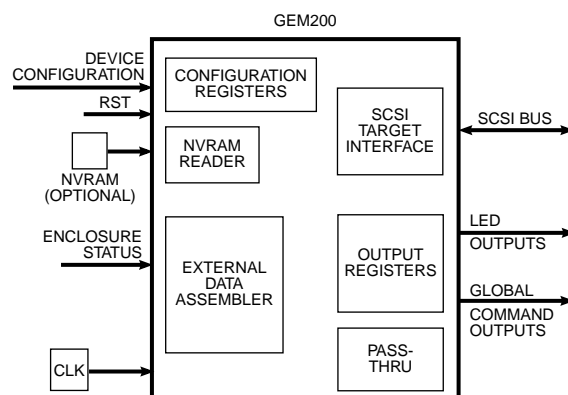


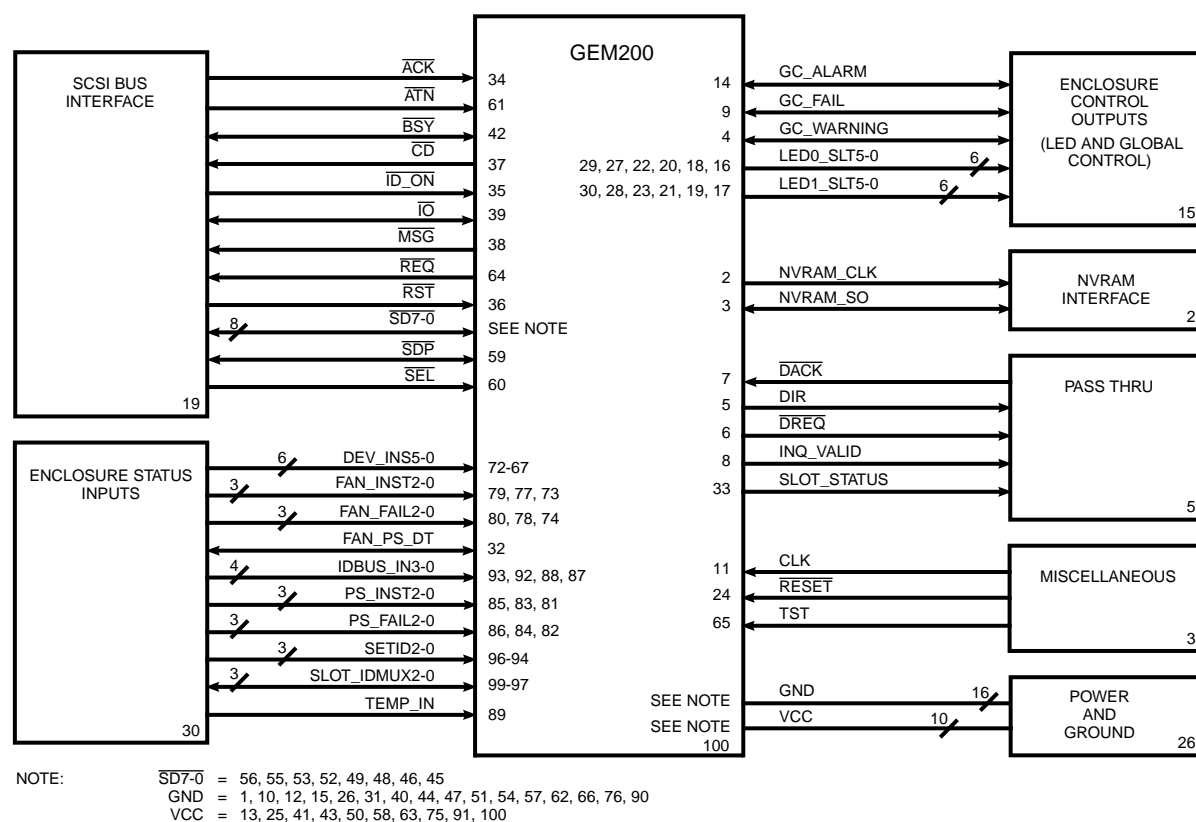
Figure 1. GEM200 Block Diagram

### Interfaces

The GEM200 interfaces include the enclosure status inputs, enclosure control outputs, and a two-wire bus. Pins that support these interfaces and other chip operations are shown in figure 2.

### Packaging

The GEM200 is available in a 100-pin plastic quad flat pack (PQFP).



**Figure 2. GEM200 Functional Signal Grouping**

Specifications are subject to change without notice.

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