



6-Channel, Flash-Configurable System Manager with Nonvolatile Fault Registers

MAX16068

General Description

The MAX16068 flash-configurable system manager monitors and manages up to six system voltages simultaneously. The MAX16068 integrates an analog-to-digital converter (ADC). Device configuration information, including overvoltage and undervoltage limits, time delay settings is stored in nonvolatile flash memory. During a fault condition, fault flags and channel voltages can be automatically stored in the nonvolatile flash memory for later read-back.

The internal 1% accurate, 10-bit ADC measures each input and compares the result to one overvoltage and one undervoltage limit. A fault signal asserts when a monitored voltage falls outside the set limits.

The MAX16068 supports a power-supply voltage of up to 14V and can be powered directly from the 12V intermediate bus in many systems.

The MAX16068 includes six programmable general purpose inputs/outputs (GPIOs). GPIOs are flash configurable as a fault output, as a watchdog input or output, or as a manual reset.

The MAX16068 features nonvolatile fault memory for recording information during system shutdown events. The fault logger records a failure in the internal flash and sets a lock bit protecting the stored fault data from accidental erasure.

An SMBus™ or a JTAG serial interface configures the MAX16068. The MAX16068 is available in a 28-pin, 5mm x 5mm, TQFN package and is fully specified over the -40°C to +85°C extended temperature range.

Features

- ◆ Operates from 2.8V to 14V
- ◆ 1% Accurate, 10-Bit ADC Monitors 6 Voltage Inputs
- ◆ Analog EN Monitoring Input
- ◆ 6 Monitored Inputs with Overvoltage and Undervoltage Limits
- ◆ Nonvolatile Fault Event Logger
- ◆ Six General-Purpose Inputs/Outputs Configurable as:
 - ◆ Dedicated Fault Output
 - ◆ Watchdog Timer Function
 - ◆ Manual Reset
 - ◆ SMBus Alert
 - ◆ Fault Propagation Input/Output
- ◆ SMBus and JTAG Interface
- ◆ Supports Cascading with MAX16065/MAX16066
- ◆ Flash-Configurable Time Delays and Thresholds
- ◆ -40°C to +85°C Extended Operating Temperature Range

Applications

- Networking Equipment
- Telecom Equipment (Base Stations, Access)
- Storage/Raid Systems
- Servers

Typical Operating Circuit appears at end of data sheet.

Ordering Information/Selector Guide

PART	PIN-PACKAGE	VOLTAGE-DETECTOR INPUTS	GENERAL-PURPOSE INPUTS/OUTPUTS
MAX16068EM+	28 TQFN-EP*	6	6

Note: This device is specified over the -40°C to +85°C extended temperature range.

† Denotes lead(Pb)-free/RoHS-compliant package.

*EP = Exposed pad.

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