

ADVANCE INFORMATION

All information in this data sheet is preliminary and subject to change.

6/95

MAXIM

μ P Supervisory Circuit with $\pm 1.5\%$ Reset Accuracy

MAX807

General Description

The MAX807 microprocessor (μ P) supervisory circuit reduces the complexity and number of components needed to monitor power-supply and battery-control functions in μ P systems. A 70 μ A supply current makes the MAX807 ideal for use in portable equipment, while a 6ns chip-enable propagation delay and 250mA output current capability (20mA in battery-backup mode) make it suitable for larger, higher-performance equipment.

The MAX807 comes in 16-pin DIP and SO packages, and provides the following functions:

- 1) μ P reset. The active-low $\overline{\text{RESET}}$ output is asserted during power-up, power-down, and brownout conditions, and is guaranteed to be in the correct state for V_{CC} down to 1V.
- 2) Active-high RESET output.
- 3) Manual-reset input.
- 4) Two-stage power-fail warning. A separate low-line comparator compares V_{CC} to a threshold 30mV above the reset threshold. This low-line comparator is more accurate than those in previous μ P supervisors.
- 5) Backup-battery switchover for CMOS RAM, real-time clocks, μ Ps, or other low-power logic.
- 6) Write protection of CMOS RAM or EEPROM.
- 7) 2.275V threshold detector—provides for power-fail warning and low-battery detection, or monitors a power supply other than +5V.
- 8) BATT OK status flag indicates that the backup-battery voltage is above 2.275V.
- 9) Watchdog-fault output—asserted if the watchdog input has not been toggled within a preset timeout period.

Applications

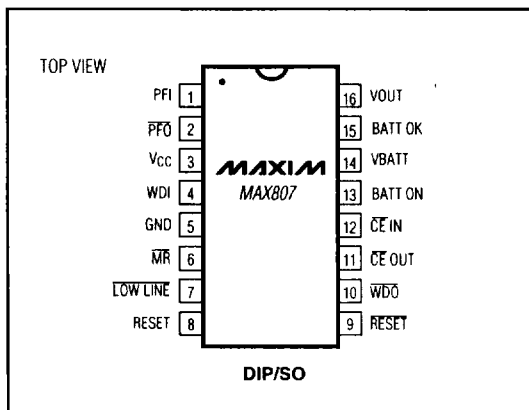
Computers
Controllers
Intelligent Instruments
Critical μ P Power Monitoring
Portable/Battery-Powered Equipment

Features

- ◆ Precision 4.675V (MAX807L) or 4.425V (MAX807M), or 4.575V (MAX807N) Voltage Monitoring
- ◆ 140ms Power OK / Reset Time Delay
- ◆ $\overline{\text{RESET}}$ and RESET Outputs
- ◆ Independent Watchdog Timer
- ◆ 1 μ A Standby Current
- ◆ Power Switching:
250mA in V_{CC} Mode
20mA in Battery-Backup Mode
- ◆ On-Board Gating of Chip-Enable Signals:
Memory Write-Cycle Completion
6ns CE Gate Propagation Delay
- ◆ MaxCap™ and SuperCap™ Compatible
- ◆ Voltage Monitor for Power-Fail or Low-Battery Warning
- ◆ Backup-Battery Monitor
- ◆ Guaranteed $\overline{\text{RESET}}$ Valid to $V_{CC} = 1V$

Pin Configuration

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SuperCap is a trademark of Baknor Industries. MaxCap is a trademark of the Carborundum Corp.

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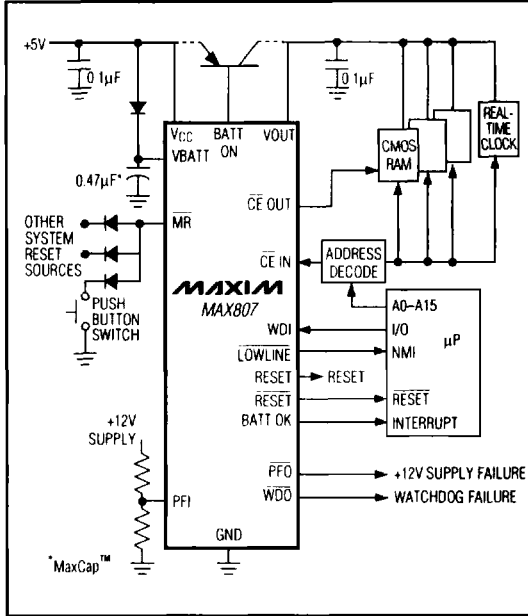
Maxim Integrated Products 5-41

Call toll free 1-800-998-8800 for free samples or literature.

μP Supervisory Circuit with ±1.5% Reset Accuracy

MAX807

Typical Operating Circuit



Ordering Information

PART†	TEMP. RANGE	PIN-PACKAGE
MAX807_CPE	0°C to +70°C	16 Plastic DIP
MAX807_CSE	0°C to +70°C	16 Wide SO
MAX807_EPE	-40°C to +85°C	16 Plastic DIP
MAX807_EWE	-40°C to +85°C	16 Wide SO
MAX807_MJE	-55°C to +125°C	16 CERDIP

† This part offers a choice of reset threshold voltage. From the table below, select the suffix corresponding to the desired threshold and insert it into the blank to complete the part number.

SUFFIX	RESET THRESHOLD (V)		
	MIN	TYP	MAX
L	4.60	4.675	4.75
N	4.50	4.575	4.65
M	4.35	4.425	4.50