

ADVANCE INFORMATION

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

7/93

MAXIM

3.0V/3.3V Microprocessor Supervisory Circuits

General Description

The MAX690T/S/R and MAX804T/S/R reduce the complexity and number of components required for power-supply monitoring and battery-control functions in microprocessor (μ P) systems. They significantly improve system reliability and accuracy compared to separate ICs or discrete components.

These parts provide four functions:

- 1) A reset pulse upon power-up, and a reset output during power-down and brownout conditions.
- 2) Battery-backup switching for CMOS RAM, CMOS μ P, or other low-power logic.
- 3) A reset pulse if the watchdog timer has not been toggled within 1.6sec.
- 4) A 1.25V threshold detector for power-fail warning, low-battery detection, or to monitor a power supply other than +3.3V or +3.0V.

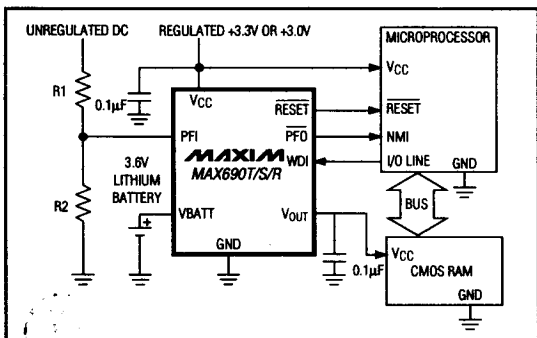
The T, S, and R suffixes denote different reset-voltage thresholds. The MAX690T/S/R are the same as the MAX804T/S/R, except that an open-drain, active-high RESET signal is provided instead of an active-low RESET.

All these parts are available in 8-pin DIP and SO packages. The MAX690T/S/R are also available in an 8-pin CERDIP package.

Applications

Battery-Powered Computers and Controllers
 Embedded Controllers
 Intelligent Instruments
 Automotive Systems
 Critical μ P Power Monitoring

Typical Operating Circuit



Features

- ◆ Precision Supply-Voltage Monitor
- ◆ 200ms Reset Time Delay
- ◆ Watchdog Timer—1.6sec Timeout
- ◆ Battery-Backup Power Switching; Battery Can Exceed V_{CC} in Normal Operation
- ◆ 50 μ A Quiescent Supply Current
- ◆ 50nA Battery Supply Current in Battery-Backup Mode
- ◆ Voltage Monitor for Power-Fail or Low-Battery Warning
- ◆ Guaranteed RESET Assertion to $V_{CC} = 1V$
- ◆ 8-Pin DIP and SO Packages

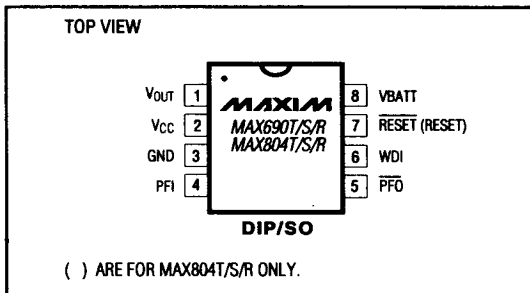
Ordering Information

PART**	TEMP. RANGE	PIN-PACKAGE
MAX690_CPA	0°C to +70°C	8 Plastic DIP
MAX690_CSA	0°C to +70°C	8 SO
MAX690_C/D	0°C to +70°C	Dice*
MAX690_EPA	-40°C to +85°C	8 Plastic DIP
MAX690_ESA	-40°C to +85°C	8 SO
MAX690_MJA	-55°C to +125°C	8 CERDIP
MAX804_CPA	0°C to +70°C	8 Plastic DIP
MAX804_CSA	0°C to +70°C	8 SO
MAX804_C/D	0°C to +70°C	Dice*
MAX804_EPA	-40°C to +85°C	8 Plastic DIP
MAX804_ESA	-40°C to +85°C	8 SO

* Contact factory for dice specifications.

** These parts offer a choice of reset threshold voltage. Select the letter corresponding to the desired nominal reset threshold voltage (T = 3.06V, S = 2.91V, R = 2.61V) and insert it into the blank to complete the part number.

Pin Configuration



MAXIM

Maxim Integrated Products 5-17

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

MAX690T/S/R/MAX804T/S/R

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