

January 27, 2001  
**MAXIM'S NEW PRODUCT  
RELEASE ANNOUNCEMENT**

**MAX6701–MAX6708**

**Low-Voltage, SOT23 µP Supervisors with Power Fail In/Out, Manual Reset, and  
Watchdog Timer**

FOR PRODUCT RELATED INFORMATION CONTACT  
THE BUSINESS MANAGER: Rick Gould  
DATA SHEET AVAILABLE: Within 4 weeks  
ADVERTISEMENT SHOWS: Within 4 weeks

FOR ALL OTHER INFORMATION CONTACT  
THE DIRECTOR OF DISTRIBUTION: Ken Bloom  
EV KIT AVAILABLE: No  
PRESS RELEASE SHOWS: Within 4 weeks

**PRODUCT DESCRIPTION**

The MAX6701–MAX6708 **microprocessor (µP) supervisory circuits** reduce the complexity and components required to monitor power-supply functions in µP systems. These devices significantly improve system reliability and accuracy compared to separate ICs or discrete components. The MAX6701–MAX6708 family provides four functions: a reset output during power-up, power-down and brownout conditions; an independent watchdog output that goes low if the watchdog input has not been toggled within 1.6s; a 0.62V threshold detector for power-fail warning; and an active-low manual reset input. The MAX6701–MAX6708 family offers several pinout options to accommodate a variety of multivoltage microprocessor supervision applications. The MAX6701/MAX6702/MAX6703 monitor three supply voltages (one fixed threshold and two adjustable) to drive a single reset output and include a manual reset input and a watchdog timer with an independent output. The MAX6704 monitors a single supply voltage to drive complementary reset outputs and includes an independent adjustable power fail in/power fail out comparator, a manual reset input, and a reset based watchdog timer. The MAX6705/MAX6706/MAX6707 monitor a single supply voltage to drive a single reset output and include an independent adjustable power fail in/power fail out comparator, a manual reset input, and a watchdog timer with an independent output. The MAX6708 is the same as the MAX6704 but without the watchdog timer function. *See the attached data sheet page(s) for more information.*

**APPLICATION AREA**

- Computers
- Controllers
- Intelligent Instruments
- Automotive Systems
- Critical µP Power Monitoring
- White Goods
- Networking
- Telecommunications

**PRICING**

Those on our pricing distribution list will receive a fax of the prices within 24 hours.

**DISTRIBUTOR/SALES INFORMATION** (*Please enter your stocking orders with the factory now.*)

SAMPLES AVAILABLE: Now

PLACE STOCKING ORDERS: Now (2 week lead)

PLACE PRODUCTION ORDERS: Now (6 week lead)

*For sales strategy and competitive information, look for these parts in a forthcoming Maxim Advantage issue.*



# Low-Voltage, SOT23 µP Supervisors with Power Fail In/Out, Manual Reset, and Watchdog Timer

## General Description

The MAX6701–MAX6708 microprocessor (µP) supervisory circuits reduce the complexity and components required to monitor power-supply functions in µP systems. These devices significantly improve system reliability and accuracy compared to separate ICs or discrete components.

The MAX6701–MAX6708 family provides four functions: a reset output during power-up, power-down and brownout conditions; an independent watchdog output that goes low if the watchdog input has not been toggled within 1.6s; a 0.62V threshold detector for power-fail warning; and an active-low manual reset input.

The MAX6701–MAX6708 family offers several pinout options to accommodate a variety of multivoltage microprocessor supervision applications.

The MAX6701/MAX6702/MAX6703 monitor three supply voltages (one fixed threshold and two adjustable) to drive a single reset output and include a manual reset input and a watchdog timer with an independent output. The MAX6704 monitors a single supply voltage to drive complementary reset outputs and includes an independent adjustable power fail in/power fail out comparator, a manual reset input, and a reset based watchdog timer. The MAX6705/MAX6706/MAX6707 monitor a single supply voltage to drive a single reset output and include an independent adjustable power fail in/power fail out comparator, a manual reset input, and a watchdog timer with an independent output. The MAX6708 is the same as the MAX6704 but without the watchdog timer function.

## Applications

Computers  
Controllers  
Intelligent Instruments  
Automotive Systems  
Critical µP Power Monitoring  
White Goods  
Networking  
Telecommunications

*Typical Operating Circuit appears at end of data sheet.*

## Features

- ◆ Small 8-Pin SOT23 Package
- ◆ Precision Monitoring of +5.0V, +3.3V, +3.0V, +2.5V Supply Voltages
- ◆ 140ms Reset Timeout Delay
- ◆ Power Fail Input with Independent Output; Monitors Inputs Down to 0.62V (MAX6704–MAX6708)
- ◆ Dual Adjustable Reset Input for Triple Voltage Monitoring (MAX6701/MAX6702/MAX6703)
- ◆ 1.6s Watchdog Timeout Period (MAX6701–MAX6707)
- ◆ Independent Watchdog Output (MAX6701/MAX6702/MAX6703/MAX6705/MAX6706/MAX6707)
- ◆ Manual Reset Input
- ◆ Four Reset Output Stage Options
  - Active-Low Push-Pull (MAX6701, MAX6705)
  - Active-Low Open-Drain (MAX6703, MAX6707)
  - Active-High Push-Pull (MAX6702, MAX6706)
  - Dual Active-Low/High Push-Pull (MAX6704, MAX6708)
- ◆ Guaranteed Reset Valid to V<sub>CC</sub> = 1V
- ◆ Immune to Short Negative V<sub>CC</sub> Transients
- ◆ Low Cost, Few External Components

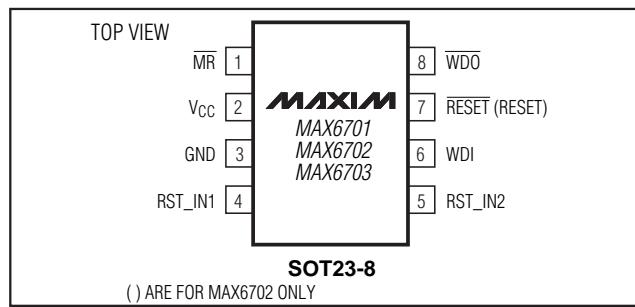
## Ordering Information

PART	TEMP. RANGE	PIN-PACKAGE
MAX6701_KA-T	-40°C to +125°C	SOT23-8
MAX6702_KA-T	-40°C to +125°C	SOT23-8
MAX6703_KA-T	-40°C to +125°C	SOT23-8

Insert the desired suffix letter (from the Threshold Suffix Guide table) into the blank to complete the part number. All devices must be ordered in increments of 2500 pieces. Sample stock is typically held on standard versions only. Contact factory for availability.

*Ordering Information continued on at the end of data sheet.*

## Pin Configurations



*Pin Configurations continued at end of data sheet.*



MAX6701–MAX6708

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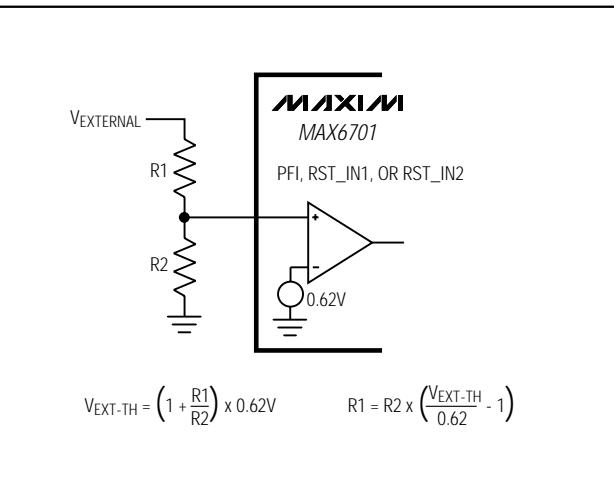


Figure 6. Calculating Adjustable Voltage Thresholds

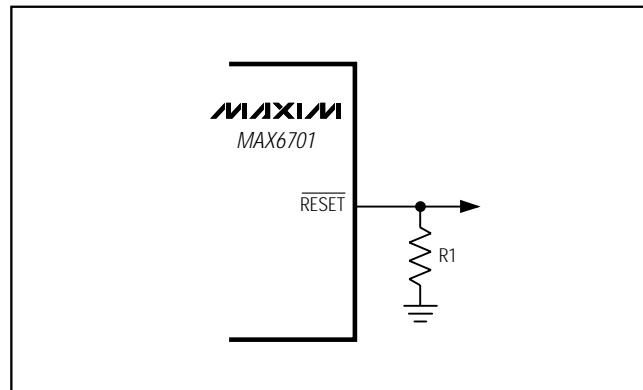


Figure 7.  $\overline{RESET}$  Valid to Ground Circuit

MAX6701-MAX6708

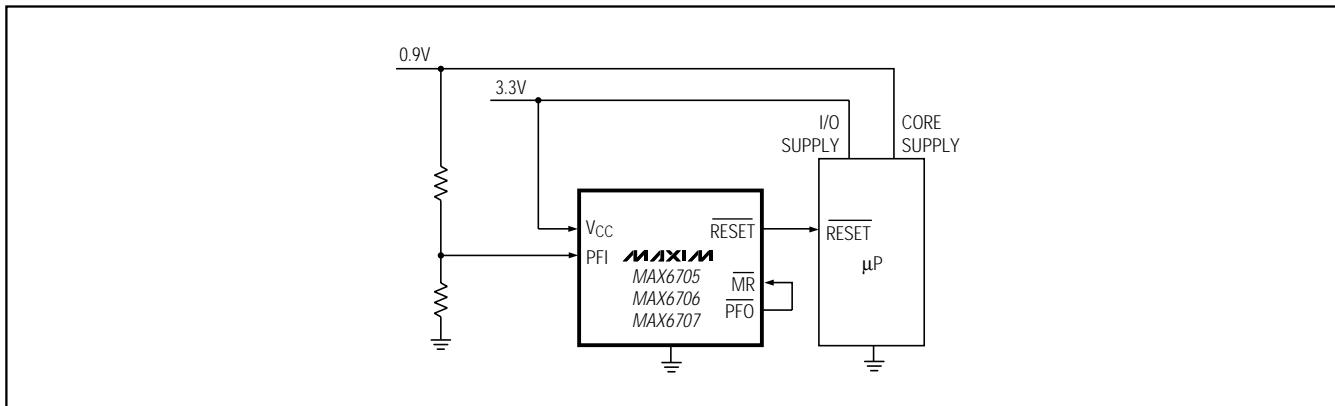


Figure 8. Monitoring two supplies for reset

## Threshold Suffix Guide

SUFFIX	RESET THRESHOLD (V)
<b>L</b>	4.63
<b>M</b>	4.38
<b>T</b>	3.08
<b>S</b>	2.93
<b>R</b>	2.63
<b>Z</b>	2.32
<b>Y</b>	2.19

*Bold* indicates standard version.

## Ordering Information (continued)

PART	TEMP. RANGE	PIN-PACKAGE
<b>MAX6704_KA</b>	-40°C to +85°C	SOT23-8
<b>MAX6705_KA</b>	-40°C to +85°C	SOT23-8
<b>MAX6706_KA</b>	-40°C to +85°C	SOT23-8
<b>MAX6707_KA</b>	-40°C to +85°C	SOT23-8
<b>MAX6708_KA</b>	-40°C to +85°C	SOT23-8