AS1923

Product Brief

Quad-Voltage Microprocessor Supervisory Circuit

1 General Description

The AS1923 microprocessor supervisory circuit was designed to monitor up to four system supply voltages without the need for external components, and asserts a single reset if any of the monitored supply voltages drops below its reset threshold.

The AS1923 features an active-low reset output that is asserted when any of the 4 monitored voltages are below their respective reset threshold. The reset output is open-drain with a weak internal pullup (10µA) to IN2. Reset remains low for a specified reset timeout period (120ms min) after all voltages have stabilized. The output is valid as long as the IN1 or IN2 input voltage remains >1V.

Minimal external component requirements, small size, and wide temperature range (-40 to +85°C) greatly improves reliability compared to individual supervisory circuits or discrete components.

A wide range of factory-trimmed threshold voltages are available to accommodate many different supply voltages/tolerances with minimal external component requirements.

Factory-trimmed options are available for monitoring +5.0, +3.3, +3.0, +2.5, +1.8, and -5.0V supplies with -5% and/or -10% tolerances. The device is also available with one or two user-adjustable threshold options (via external resistor-divider network) if non-standard voltage thresholds are required.

The AS1923 is available in an 6-pin SOT23 package.

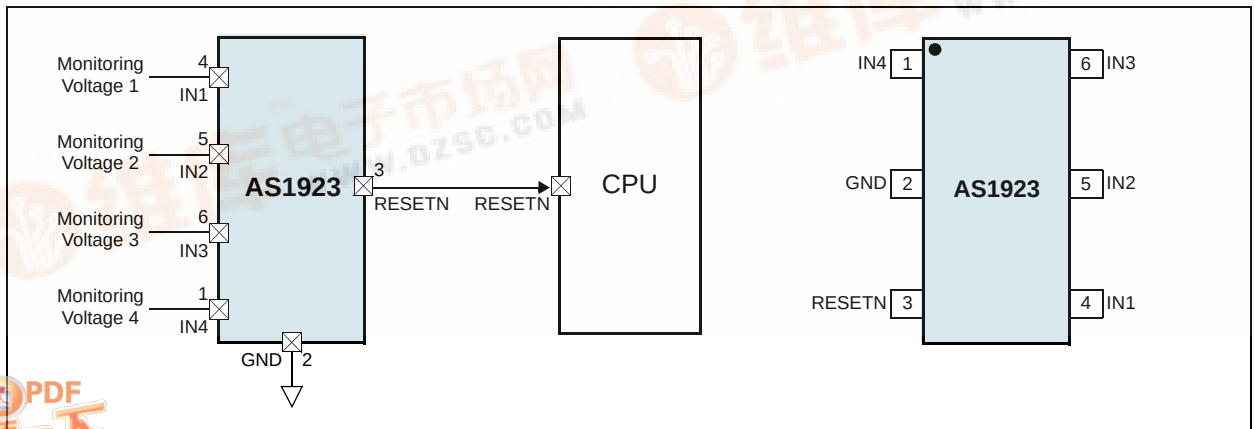
2 Key Features

- Simultaneous Quad-Voltage Monitoring
- Precision Factory-Trimmed Reset Threshold Options: +5.0, +3.3, +3.0, +2.5, +1.8, and -5.0V
- User-Adjustable Voltage Monitoring Threshold Options
- Low Supply Current: 55µA
- Open-Drain – AS1923A
- 10µA Current Source Pullup – AS1923B
- Reset Timeout Period: 120ms
- RESET Valid to IN1 = 1V or IN2 = 1V
- Immune to Fast IN*x* Transients
- External Components not Required
- Guaranteed Performance: Operating Temperature Range = -40 to +85ºC
- 6-pin SOT23 package

3 Applications

The device is ideal for portable and battery-powered systems, embedded controllers, intelligent instruments, automotive systems, critical CPU monitoring, and any multi-supply application.

Figure 1. Application Diagram and Pinout



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