AS1910 - AS1915

Product Brief

Dual-Voltage Microprocessor Supervisory Circuits with Reset and Watchdog

1 General Description

The AS1910 - AS1915 microprocessor supervisory circuits were designed to generate a reset when one of the two monitored supply voltages falls below a factory-trimmed threshold, and to maintain the reset for a minimum timeout period when both supplies are above their reset thresholds. Guaranteed to be in the correct state for VCC higher than +1.0V, these devices are ideal for multiple-voltage systems with strict monitoring requirements.

The AS1913/AS1914/AS1915 feature factory-trimmed thresholds to monitor a primary voltage between 1.8 and 3.6V, and a secondary voltage between 0.9 and 2.5V.

For the AS1910/AS1911/AS1912, a secondary monitoring voltage can be user-adjusted via an external resistor divider down to 0.6V.

The devices are available with the reset output types listed in Table 1.

Table 1. Standard Products

Model	Reset Output Type
AS1910/AS1913	Active-Low Push/Pull
AS1911/AS1914	Active-High Push/Pull
AS1912/AS1915	Active-Low Open-Drain

The AS1910 - AS1915 include a manual-reset input for systems that never fully power down the microprocessor. Additionally, these devices feature a watchdog timer to help ensure that the processor is operating within proper code boundaries.

The AS1910 - AS1915 are available in a 6-pin SOT23 package.

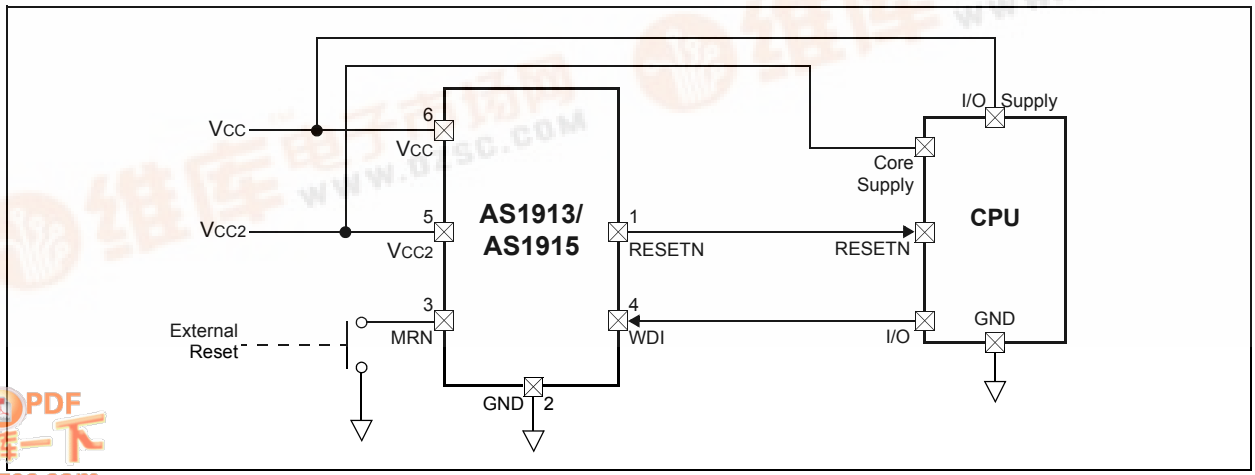
2 Key Features

- Primary VCC Supervisory Range: +1.8 to +3.6V
- Secondary VCC Supervisory Range: +0.9 to +2.5V (AS1913/AS1914/AS1915)
- User-Adjustable Threshold Down to +0.63V (AS1910/AS1911/AS1912)
- Guaranteed Reset Valid Down to VCC = +1.0V
- Reset Timeout Delay: 215ms
- Manual Reset Input
- Three Reset Output Types
  - Active-High Push/Pull
  - Active-Low Push/Pull
  - Active-Low Open-Drain
- Watchdog Timeout Period: 1.5s
- Immune to Fast Negative VCC Transients
- External Components Not Required
- 6-pin SOT23 Package

3 Applications

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

Figure 1. Typical Application Diagram



Copyrights

Disclaimer

Devices sold by austriamicrosystems AG are covered by the warranty and patent indemnification provisions appearing in its Term of Sale. austriamicrosystems AG makes no warranty, express, statutory, implied, or by description regarding the information set forth herein or regarding the freedom of the described devices from patent infringement. austriamicrosystems AG reserves the right to change specifications and prices at any time and without notice. Therefore, prior to designing this product into a system, it is necessary to check with austriamicrosystems AG for current information. This product is intended for use in normal commercial applications. Applications requiring extended temperature range, unusual environmental requirements, or high reliability applications, such as military, medical life-support or life-sustaining equipment are specifically not recommended without additional processing by austriamicrosystems AG for each application.

The information furnished here by austriamicrosystems AG is believed to be correct and accurate. However, austriamicrosystems AG shall not be liable to recipient or any third party for any damages, including but not limited to personal injury, property damage, loss of profits, loss of use, interruption of business or indirect, special, incidental or consequential damages, of any kind, in connection with or arising out of the furnishing, performance or use of the technical data herein. No obligation or liability to recipient or any third party shall arise or flow out of austriamicrosystems AG rendering of technical or other services.

Contact Information

Headquarters
austriamicrosystems AG
A-8141 Schloss Premstaetten, Austria

Tel: +43 (0) 3136 500 0
Fax: +43 (0) 3136 525 01

e-mail: info@austriamicrosystems.com

For Sales Offices, Distributors and Representatives, please visit:

http://www.austriamicrosystems.com