

# AS1901, AS1902, AS1903

## Ultra Low-Power $\mu$ P Supervisory Circuit

Product Brief

### 1 General Description

The AS1901/2/3 family is an ultra low-power supervisory circuit device.

The device can be used to monitor the supply voltage of digital systems and microprocessors and initiate a reset when the voltage goes below a predefined threshold. The duration of the reset is 5/20/100/500ms (typ.) after the supply voltage has risen above the threshold.

The AS1901/2/3 exhibit excellent reliability and can reduce application costs by eliminating all external components.

The device is available with different output drivers:

- The AS1901 has a push-pull driver with an active low reset.
- The AS1902 uses the same output stage as the AS1901, but has an active high reset.
- The AS1903 has an open drain output with active low reset.

All devices operate down to a voltage of 1V.

The reset thresholds are factory-trimmable between 2.2V and 3.08V in steps of approximately 100mV.

Each device of the AS1901/2/3 family is offered with four time-out periods of 5/20/100/500ms.

The extremely low current consumption of only 230nA (typ) at 3.3V makes the device ideal for use in portable applications.

All devices are available in a 3-pin SOT23 package.

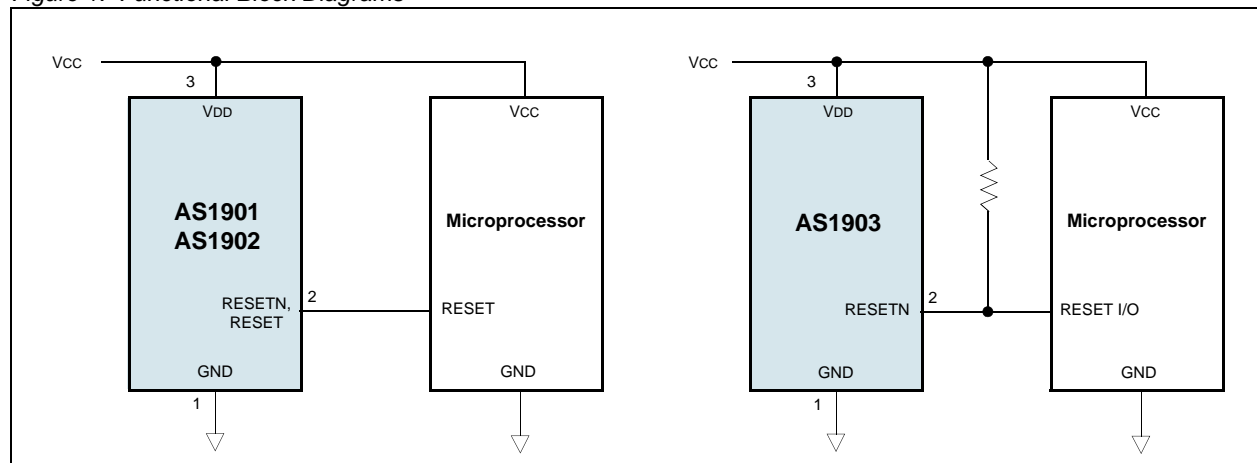
### 2 Key Features

- Low 230nA (typ) Supply Current
- Precision Monitoring of 2.5-, 3-, and 3.3V-Power Supplies
- Supply Voltage Range: 1.0 to 3.6V
- Reset Threshold Range: 2.2 to 3.1V
- Available in 3 Versions:
  - AS1901 Push Pull RESETN
  - AS1902 Push Pull RESET
  - AS1903 Open Drain RESETN
- 4 Time-Out Periods Ranging from 5 to 500ms
- Detection Voltage Accuracy:  $\pm 1.5\%$
- Temperature Range: -40 to +85°C
- Package: SOT23-3

### 3 Applications

The devices are ideal for computers, intelligent instruments, controllers, critical microprocessor and micro-controller, power monitoring and portable/battery-powered equipment.

Figure 1. Functional Block Diagrams



## Copyrights

Copyright © 1997-2007, austriamicrosystems AG, Schloss Premstaetten, 8141 Unterpremstaetten, Austria-Europe. Trademarks Registered ®. All rights reserved. The material herein may not be reproduced, adapted, merged, translated, stored, or used without the prior written consent of the copyright owner.

All products and companies mentioned are trademarks or registered trademarks of their respective companies.

## 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. For shipments of less than 100 parts the manufacturing flow might show deviations from the standard production flow, such as test flow or test location.

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

For Sales Offices, Distributors and Representatives, please visit:

<http://www.austriamicrosystems.com/contact>