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## MAX20480

## Automotive ASIL-D 7-Channel Power-System Monitor

Industry's Only Auto-Qualified, ASIL-D Power-System Monitor with Challenge/Response Watchdog

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## Description

The MAX20480 is a complete ASIL-compliant SoC power-system monitor with up to seven voltage monitor inputs. Each input has programmable OV/UV thresholds of between 2.5% and 10% with  $\pm 1\%$  accuracy. Two of the inputs have a separate remote ground-sense input and support DVS through the integrated I<sup>2</sup>C interface.

The MAX20480 contains a programmable flexible power sequence recorder (FPSR). This recorder stores power-up and power-down timestamps separately, and supports on/off and sleep/standby power sequences. The MAX20480 also contains a programmable challenge/response watchdog, which is accessible through the I<sup>2</sup>C interface, along with a configurable active-low RESET output.

The MAX20480 improves reliability while significantly reducing system size and component count, compared to separate ICs or discrete components. The MAX20480 meets ASIL-D reliability when used with a supervisory controller. The device is designed to operate over the ambient temperature range of -40°C to +125°C.

## Key Features

- Small Solution
  - 2.35V to 5.50V Operating Supply Voltage
  - Only One External Component Required
  - 150μA Operating Current
  - 8μA Power-Down Mode
- High Precision
  - Selectable 102.5% to 110% OV Monitors
  - Selectable 97.5% to 90% UV Monitors
  - $\pm 1\%$  Accuracy
  - 0.5% Step Size
  - ASIL-D Compliance
- Highly Integrated
  - Five Fixed-Voltage Monitoring Inputs
  - Two Differential DVS Tracking-Voltage Monitoring Inputs with Remote-Ground Sense
  - Power-Sequencing Recording
  - Simple or Challenge/Response Windowed Watchdog
  - Fault Recording
  - CRC on I<sup>2</sup>C Interface
  - Programmable I<sup>2</sup>C Address
  - OTP Configuration with Error-Correcting Code and Reload Functionality
  - Programmable Active-Low RESET Pin
- 16-Pin Side-Wettable TQFN with Exposed Pad (3mm x 3mm)

## Applications/Uses

- ADAS
- Autonomous Driving Processing Systems
- Power System Supervision and MCU/SoC Monitoring
- Remote Sensor Modules

- -40°C to +125°C Operating Temperature