

## LM96011

# Hardware Monitor with Thermal Diode Input and SensorPath™ Bus

## General Description

The LM96011 is part of a hardware monitor system, comprised of two parts the Super I/O (Master) and LM96011 (slave). The LM96011 will be controlled by the Master and report to the master temperature, and voltage measurements using a SensorPath™ single-wire bus. The LM96011 measures the temperature of its own die as well as an external device such as a processor thermal diode or a diode connected transistor. The LM96011 can resolve temperatures up to 140°C and down to -55°C. Using  $\Sigma\Delta$  ADC it measures V<sub>ccp</sub>, +2.5V, +3.3V, +5V and +12V analog input voltages with internal scaling resistors.

## Features

- SensorPath Bus Interface
  - 2 hardware programmable addresses
- Voltage Monitoring
  - 9-bit  $\Sigma\Delta$  ADC
  - Internal scaling resistors for all inputs
  - Monitors V<sub>ccp</sub>, +2.5 V, +3.3 V, +5 V and +12 V
- Temperature Sensing
  - Remote diode temperature sensor zone

- Internal local temperature zone
- 0.5 °C resolution
- Measures temperatures up to 140 °C

- 14-lead TSSOP package

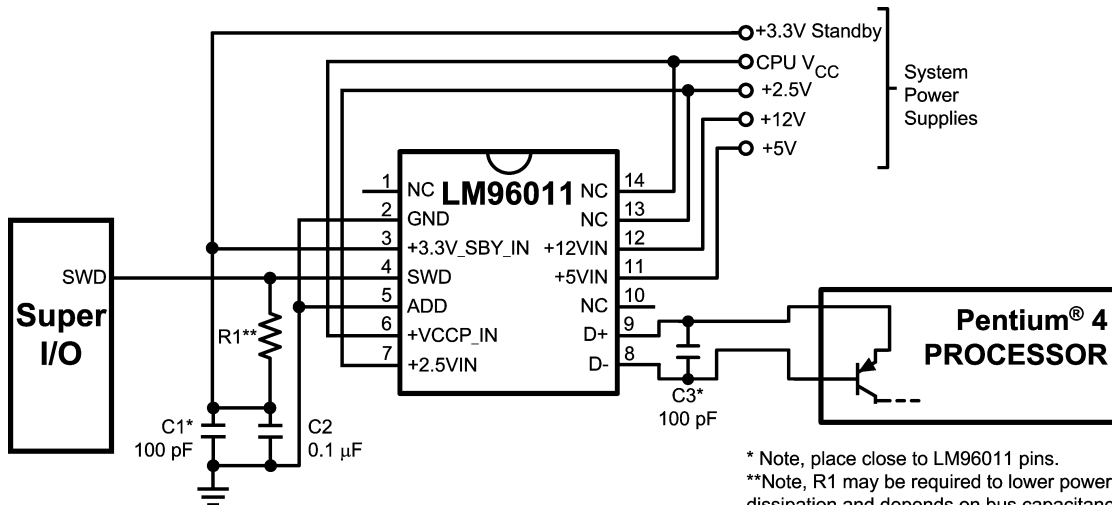
## Key Specifications

- Voltage Measurement Accuracy ±2 % (max)
- Temperature Sensor Accuracy ±3 °C (max)
- Temperature Range:
  - LM96011 Junction Temperature 0 °C to +85 °C
  - Remote Temperature +25 °C to +125 °C
- Power Supply Voltage +3.0 V to +3.6 V
- Average Power Supply Current 0.5 mA (typ)
- Round-robin Conversion of All Channels 91ms to 1460 ms

## Applications

- Microprocessor based equipment  
(Motherboards, Video Cards, Base-stations, Routers, ATMs, Point of Sale, ...)

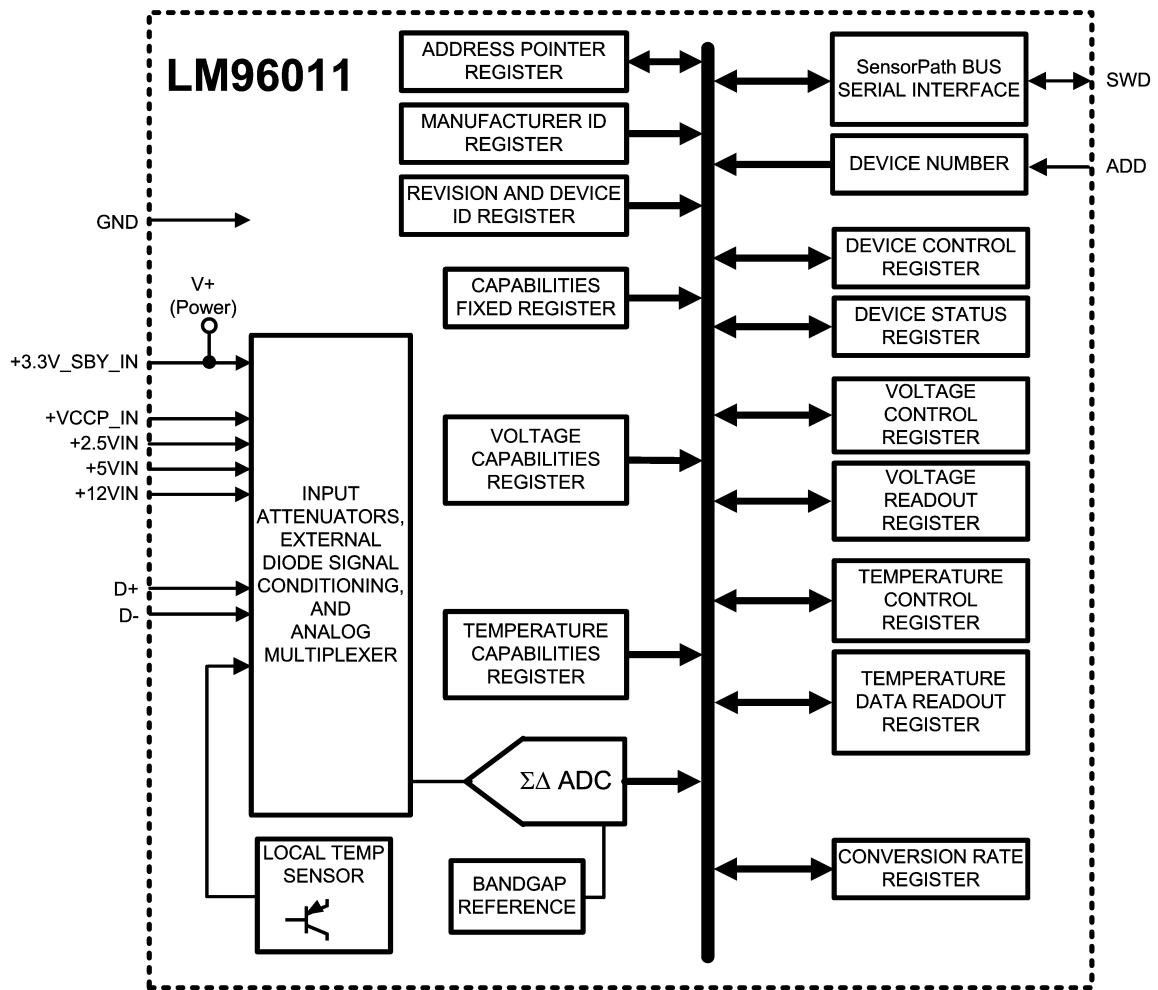
## Typical Application



\* Note, place close to LM96011 pins.  
\*\*Note, R1 may be required to lower power dissipation and depends on bus capacitance.

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## Block Diagram



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