High-Temperature Automotive Solutions

Optimize Powertrain Platforms with Highly Accurate Temp Sensors

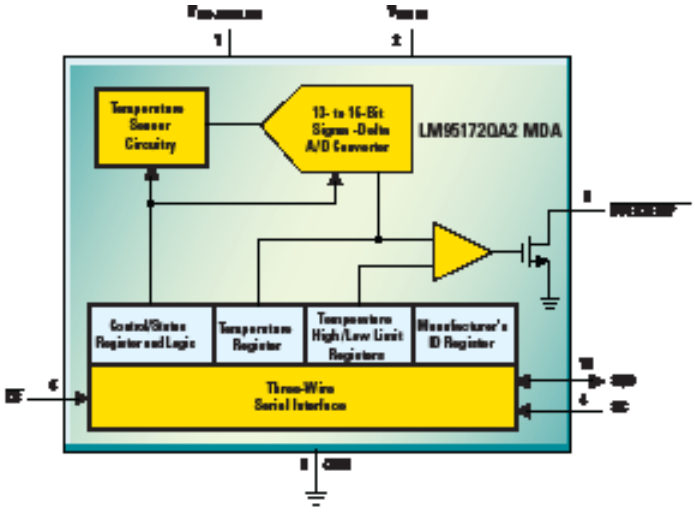
Thermal Challenges

Today, global economic and environmental trends have led to the production of powertrain systems that are higher in quality and reliability and higher in performance. Moreover, powertrain platform designs have become more compact and increasingly capable of generating higher power densities and higher levels of efficiency.

National's proprietary thermal management technology and solutions are optimized for these powertrain platforms. Our solutions provide the highest level of temperature accuracy at 120˚C to 160˚C, or 175˚C for selected products in die form, allowing powertrain platforms to be continuously monitored at high temperatures. Additionally, many of National's temperature sensors feature a thermostat function that prevents temperature limits from being exceeded, thereby improving overall system-level efficiency.

National offers a range of amplifiers and power management solutions that are designed to monitor powertrain platforms and ensure overall system reliability and robustness.

See all National's automotive products and solutions at:
national.com/automotive



LM95172QA2 Digital Temperature Sensor

LM95172QA2 Features

- AECQ-100 Grade 0
- Accuracy: ± 1°C from 130°C to 160°C
- Operating Temp: -40°C to 175°C in die form
- Over-temperature alarm output
- High resolution (0.008°C/LSB)

Temperature Sensor Product Overview

Part	Auto Grade	Description
LM94022Q – Grade 0	🚗	Analog temperature: 1.5V lowest voltage, lowest supply current, wide-operating temp range with highest accuracy, available in SC70-5
LM27A – Grade 0	—	Analog temperature switch + temperature sensor: small, low-power, high-temp (150°C) temperature switch plus analog temperature sensor, available in die and SOT23-5
LM95172QA2 – Grade 0	🚗	Digital temperature sensor: 175°C high temperature, highest accuracy, high resolution, wide-operating temperature range and fast-conversion time with integrated temperature switch, available in die
LM71A – Grade 0	—	Digital temperature sensor: high-accuracy, high-temperature and resolution SPI/Microwire® temperature sensor, available in die, SOT23-5, LLP-6
LM95071 – Grade 0	—	Digital temperature sensor: high-accuracy and resolution SPI/Microwire® temperature sensor, available in SOT23-5

🚗= AEC-Q100 qualified

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