Analog Spotlight
MCP9600 – Highly Integrated Thermocouple Voltage to Temperature Converter

General Information
The MCP9600 is a fully integrated thermocouple Electromotive Force (EMF) to degree Celsius converter with Cold-Junction Compensation. The MCP9600 supports eight thermocouple types (K, J, T, N, S, E, B and R) and provides user-programmable registers, adding design flexibility for various temperature sensing applications. The registers allow user-selectable settings, such as low power modes for battery-powered applications, an adjustable digital filter for fast transient temperatures and four individually programmable temperature alert outputs that can be used to detect multiple temperature zones.

Features
■ Thermocouple Voltage to °C Converter – Integrated Cold-Junction Compensation
■ +/- 1.5°C (Max.) Measurement Accuracy: +/-1°C (Max.) Cold-Junction, 0°C to +85°C
■ Temperature Measurement Resolution: Hot and Cold Junctions: 0.0625°C (Typ.)
■ Four Programmable Temperature Alert Outputs
■ Programmable Digital Filter for Temperature
■ Low Power: Shutdown Mode, Burst Mode, 1 to 128 Temperature Samples
■ 2-Wire Interface: I2C Compatible, 100 kHz – Supports eight Devices per I2C Bus
■ Operating Voltage Range: 2.7V to 5.5V
■ Operating Current: 500 μA (Typ.)
■ Shutdown Current: 2 μA (Typ.)
■ Package: 20-Lead MQFN

Applications:
■ Petrochemical Thermal Management
■ Hand-Held Measurement Equipment
■ Industrial Equipment
■ Ovens
■ Engine Thermal Monitor
■ Temperature Detection Racks

Development Tools:
■ MCP9600 Thermocouple EMF to Degree Celsius Converter Evaluation Board (ADM00665)

www.microchip.com/MCP9600
Visit our website for additional product information and to locate your local sales office.
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