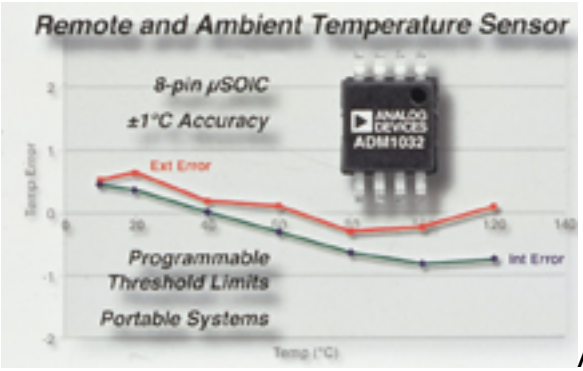
Thermal Diode Monitor



Analog Devices, Inc. today introduced a &#177 1 &#176 C high-accuracy, low-cost remote thermal diode monitor available in an 8-pin uSOIC package. Its small size makes the ADM1032 highly desirable for portable and space-constrained applications, such as thin and light notebook computers, while its complete functionality and features are well suited for a wide range of applications requiring thermal management systems, including desktop computers, set-top boxes, industrial controllers, instrumentation, and telecommunications equipment.

The ADM1032's &#177 1 &#176 C high-accuracy rating enables system designers to reduce temperature guardbanding safely, and increase system performance because of minimal clock throttling (for CPU-based systems). Another feature of the ADM1032 &#151 which sets it apart from trip-point or thermistor solutions &#151 is its ability to program under and over temperature limits into a particular device over the SMBus (standard system management bus), with an alert output signaling when the on-chip or remote temperature measurement is out of range. The fact that this programmable capability can establish over/under limits for both the remote and local channels gives OEMs (original equipment manufacturers) the flexibility to use only one IC (integrated circuit) over multiple platforms that may require different thermal threshold settings. In addition, a programmable therm (comparator) output, which allows CPU clock throttling, also permits on/off control of a cooling fan, eliminating the need for external fan circuitry.

Other features of the ADM1032 include 1 &#176 C accuracy and resolution on the local channel, and 0.125 &#176 C-resolution/1 &#177&#176 C accuracy on the remote channel; 160mA maximum operating current, and a 3mA standby current; and, a 3V to 5.5V supply.

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