Kernel driver lm95234

Supported chips:

- National Semiconductor / Texas Instruments LM95233

  Addresses scanned: I2C 0x18, 0x2a, 0x2b

  Datasheet: Publicly available at the Texas Instruments website

  https://www.ti.com/product/lm95233

- National Semiconductor / Texas Instruments LM95234

  Addresses scanned: I2C 0x18, 0x4d, 0x4e

  Datasheet: Publicly available at the Texas Instruments website

  https://www.ti.com/product/lm95234

Author: Guenter Roeck <linux@roeck-us.net>

Description

LM95233 and LM95234 are 11-bit digital temperature sensors with a 2-wire System Management Bus (SMBus) interface and TrueTherm technology that can very accurately monitor the temperature of two (LM95233) or four (LM95234) remote diodes as well as its own temperature. The remote diodes can be external devices such as microprocessors, graphics processors or diode-connected 2N3904s. The chip's TruTherm beta compensation technology allows sensing of 90 nm or 65 nm process thermal diodes accurately.

All temperature values are given in millidegrees Celsius. Temperature is provided within a range of -127 to +255 degrees (+127.875 degrees for the internal sensor). Resolution depends on temperature input and range.

Each sensor has its own maximum limit, but the hysteresis is common to all channels. The hysteresis is configurable with the tem1_max_hyst attribute and affects the hysteresis on all channels. The first two external sensors also have a critical limit.

The lm95234 driver can change its update interval to a fixed set of values. It will round up to the next selectable interval. See the datasheet for exact values. Reading sensor values more often will do no harm, but will return 'old' values.