M88TS5110

DDR5 Temperature Sensor (TS)

General Description

M88TS5110 is a high-accuracy temperature sensor (TS) designed for DDR5 server DIMMs such as RDIMM and LRDIMM. The TS is compatible with JEDEC TS5110 specification and supports two-wire I3C Basic bus (up to 12.5 MHz) and I^{2}C bus (up to 1 MHz). The server CPU can communicate with the TS via the SPD Hub to manage the temperature of the memory module.
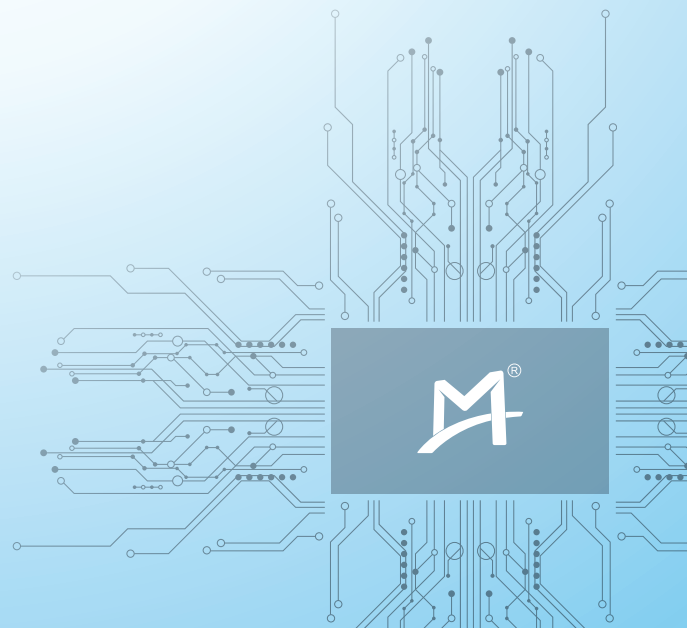
The TS is an important component of the DDR5 server DIMMs. The current mainstream DIMMs are expected to be equipped with 2 TS chips per DIMM.
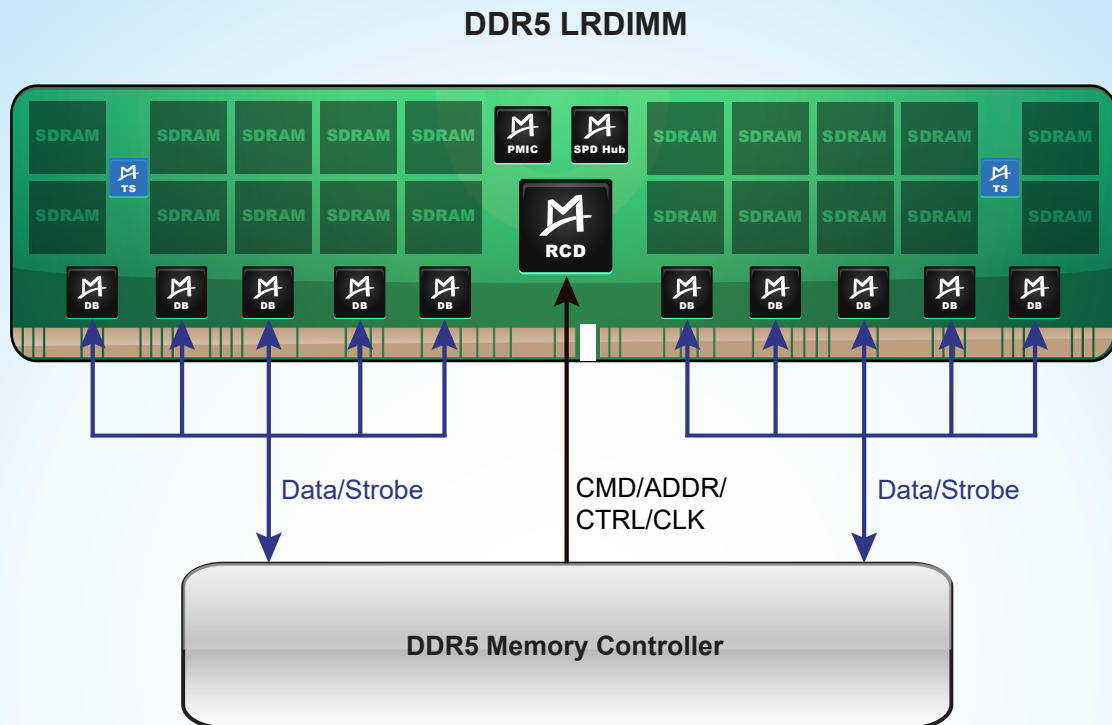
Applications

- DDR5 Server RDIMM and LRDIMM

Feature List

- Compatible with JEDEC specification
- Temperature sensor with high accuracy
- Two-wire I^{2}C and I3C serial bus interface
- Packet Error Check (PEC) Function
- Parity Error Check Function
- Bus Reset Function
- In-Band Interrupt (IBI)
- 6-ball WLCSP package

Application Diagram

DDR5 LRDIMM

Notes: Here shows the application of TS on the DDR5 LRDIMM as an example.

This LRDIMM contains Montage's DDR5 products (with an "M" logo) as listed below:

1. **SPD Hub**: DDR5 SPD Hub with Integrated Temperature Sensor (x1)
2. **PMIC**: DDR5 Power Management IC (x1)
3. **TS**: DDR5 Temperature Sensor (x2)
4. **RCD**: DDR5 Registering Clock Driver (x1)
5. **DB**: DDR5 Data Buffer (x10)

Scan the QR Code
Follow us in WeChat