M88SPD5118

DDR5 SPD EEPROM with Hub and Integrated Temperature Sensor

General Description

M88SPD5118 is a 8 Kbit SPD (Serial Presence Detect) EEPROM with Hub function (SPD Hub) and integrated Temperature Sensor (TS). The Hub feature provides communication between the host and the local devices behind Hub over the I^2C/I3C seriel bus. The 8 Kbit EEPROM is for storing information and parameters pertaining to the DIMM, DRAMs and other on-DIMM devices. The integrated TS is designed to monitor the temperature under the SPD Hub device.

The SPD Hub is compliant with JEDEC SPD5118 specification. As a critical part of Montage's complete DDR5 solution, the SPD Hub is designed for all different types of DDR5 DIMMs used in servers, desktops and laptops.

Applications

- DIMMs for servers such as MRDIMM / MRDIMM, RDIMM and LRDIMM
- DIMMs for client such as UDIMM, SODIMM, CUDIMM, CSODIMM, CAMM and LPCAMM
- Industrial temperature monitors

Feature List

- Compliant with JEDEC SPD5118 specification
- Two-wire I^2C and I3C serial bus interface
- Up to 12.5 MHz transfer rate
- 1.8 V VDDSPD and 1.0V VDDIO power supply
- 8 Kbit SPD EEPROM:
  - 16 blocks of non-volatile memory (NVM)
  - Optional write protection for each block of NVM
- Hub function, supporting up to 8 unique addressing
- Integrated Temperature Sensor with default resolution of 0.25°C
- Packet Error Check (PEC) & Parity Error Check functions
- In Band Interrupt (IBI)
- Temperature Range from -40°C to +125°C
- Package: 9-contact thermally enhanced DFN

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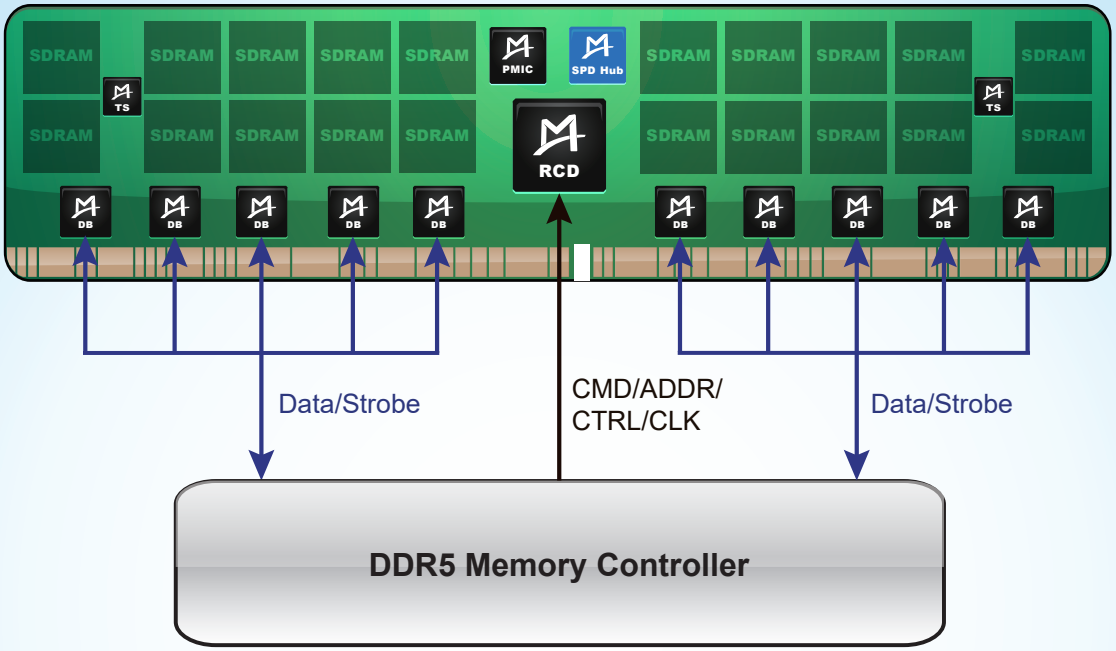
Application Diagram

DDR5 LRDIMM



Notes: Here shows the application of SPD Hub 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)

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