
DDR5 HUB with 1024Bytes EEPROM and Integrated Temperature Sensor

1 Description

The SY7118 is a Serial Presence Detect EEPROM with Hub function and integrated Temperature Sensor (TS). It is fully compliant with JEDEC JESD300-5B specification.

The EEPROM is 1024 bytes of non-volatile memory arranged as 16 blocks of 64 bytes per block. Each block may optionally be write protected via software command.

The TS provides +/-0.25 °C typical sensing accuracy, over the entire operating temperature range of -40 °C to +125 °C. The detection frequency is greater than 15 samples/s, realize real-time monitoring of ambient temperature.

The SY7118 is intended to operate up to 12.5 MHz on a 1.0V I3C Basic bus or up to 1 MHz on a 1.0 V to 3.3 V I2C bus. The devices are intended to interface to I2C/I3C Basic buses which have multiple devices on a shared bus, and must be uniquely addressed with fixed addressing on the same bus.

The SY7118 is available in a 9-contact thermally enhanced DFN(2.0 mm x 3.0 mm).

2 Applications

DDR5 DIMM Modules

Server platforms

Notebook computer

3 Features

- ◆ Compliant with JEDEC JESD300-5B
- ◆ Operating voltage range:
 - 1.70V~1.98V (VDDSPD)
 - 0.95V~1.05V (VDDIO)
- ◆ Working average current: 40 uA
- ◆ Standby current: 36 uA
- ◆ HUB Function
 - Support 1MHz I2C and 12.5MHz I3C Bus
 - 1.0V I/O levels in I3C mode
 - 1.0V to 3.3 V I/O levels in I2C mode
 - All Hubs respond to specific predefined I2C /I3C device select codes on a Controller interface bus
- ◆ EEPROM
 - 1024 bytes of non-volatile memory (NVM):
16 blocks x 64 bytes per block
 - Optional write-protection on each block of NVM via software command
- ◆ Operating temperature range: -40°C ~+125°C
- ◆ Exceeds JEDEC temperature accuracy specifications: (typ./max.)
 - ±0.25°C / ±0.5°C from +75°C to +95°C
 - ±0.25°C / ±1.0°C from -40°C to +125°C
- ◆ 9-contact thermally enhanced DFN (2.0 mm x 3.0 mm) package

4 Typical Application Circuit

