IML3112

I3C Basic 1:2 Bus Multiplexer

Description

The IML3112 is a dual bidirectional 1:2 translating multiplexer for I3C/I²C bus. The input HSDA/HSCL pair can fan out to two output pairs (or channels), either individual output channel can be selected.

Applications with slave devices that share the same address can use this multiplexer to prevent slave address conflicts. By selecting the proper output channel, the I3C/I²C master can access a large number of devices across both ports.

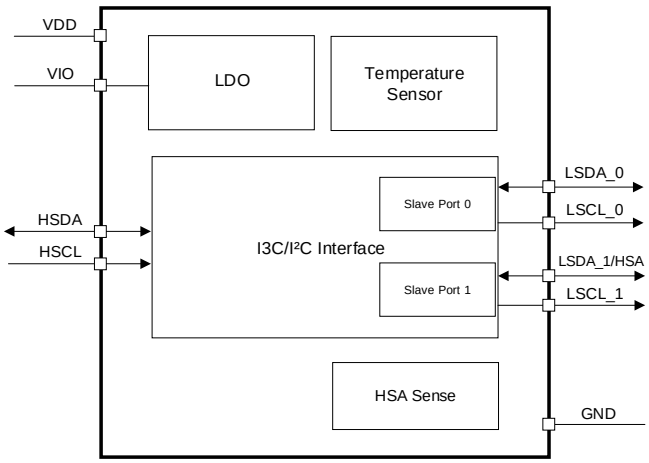

Figure 1. Block Diagram

Features

- 1:2 bus multiplexer
- Two-wire programmable I²C or I3C bus serial interface
- Single device load on the Host bus
- Up to 12.5MHz transfer rate
- Single 1.8V power supply input
- 1.0V VLDO output at VIO pin
- Push-pull IO levels:
  - Host bus: 1.8V
  - Local bus: 1.0V, 1.1V, 1.2V, and 1.8V
- Open-drain IO levels:
  - Host bus: 1.8V, 2.5V and 3.3V
  - Local bus: 1.0V, 1.1V, 1.2V,1.8V, 2.5V, and 3.3V
- Integrated Temperature Sensor; 0.5°C accuracy with 0.25°C resolution
- Packet Error Check (PEC) function
- Parity Error Check function
- Bus reset function
- In-band Interrupt (IBI)
- Up to 8 unique addressing
- Programmable I²C, I3C bus addressing scheme
- 9-pin thermally enhanced DFN package
- Temperature: Industrial range of -40 °C to 125°C

Applications

- Pin reduction in host or ASIC or platform controllers
- Server boards
- PCs/notebooks
- Embedded automation

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(Rev.1.0 Mar 2020)

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