



# 8-Bit I<sup>2</sup>C-Bus and SMBus I/O Port with Interrupt, 2-Kbit EEPROM and 6 Address Pins

## PCA9501

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The PCA9501 is an 8-bit I/O expander with an on-board 2-kbit EEPROM.

The I/O expandable eight quasi-bidirectional data pins can be independently assigned as inputs or outputs to monitor board level status or activate indicator devices such as LEDs. The system leader writes to the I/O configuration bits in the same way as for the PCF8574. The data for each input or output is kept in the corresponding input or output register. The system leader can read all registers.

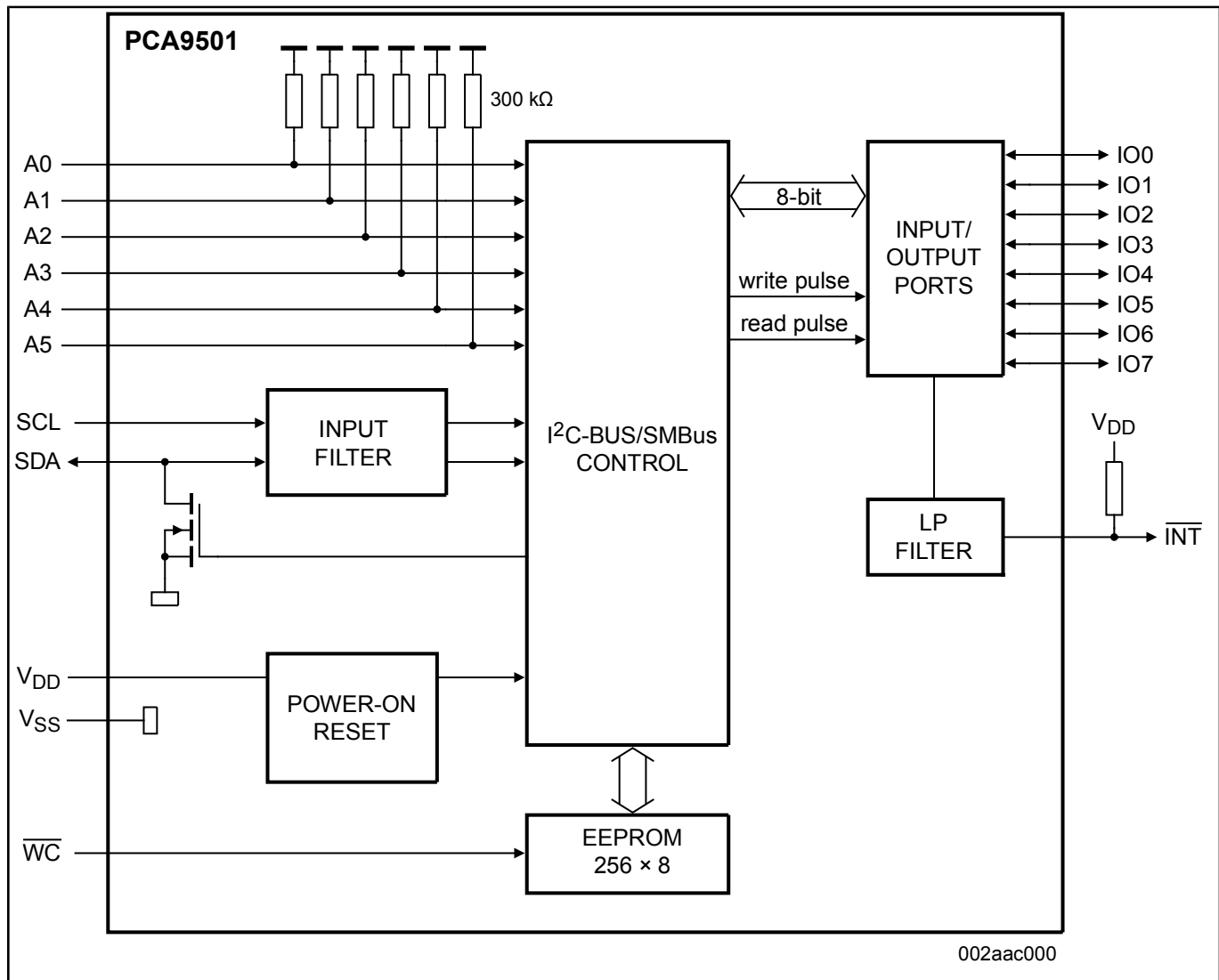
The EEPROM can be used to store error codes or board manufacturing data for read-back by application software for diagnostic purposes and are included in the I/O expander package.

The PCA9501 active LOW open-drain interrupt output is activated when any input state differs from its corresponding input port register state. It is used to indicate to the system leader that an input state has changed and the device needs to be interrogated.

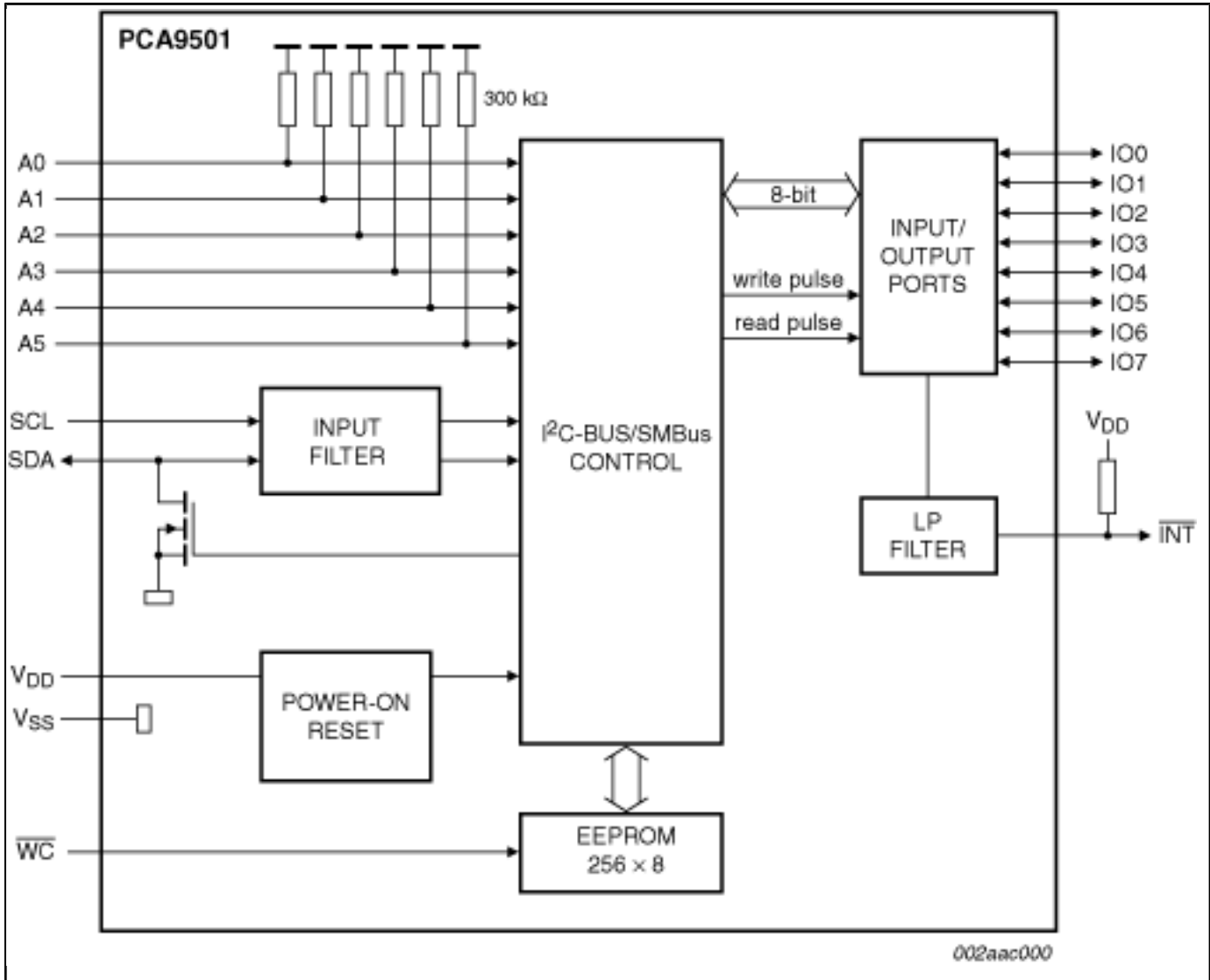
The PCA9501 has six address pins with internal pull-up resistors allowing up to 64 devices to share the common two-wire I<sup>2</sup>C-bus software protocol serial data bus. The fixed GPIO address starts with '0' and the fixed EEPROM I<sup>2</sup>C-bus address starts with '1', so the PCA9501 appears as two separate devices to the bus leader.

The PCA9501 supports hot insertion to facilitate usage in removable cards on backplane systems.

# PCA9501 Block Diagram Block Diagram



Block diagram: PCA9501BS, PCA9501D, PCA9501PW Block Diagram



View additional information for [8-Bit I<sup>2</sup>C-Bus and SMBus I/O Port with Interrupt, 2-Kbit EEPROM and 6 Address Pins](#).

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