



# Remote 8-Bit I/O Expander for I<sup>2</sup>C#Bus with Interrupt

## PCF8574\_74A

Last Updated: Nov 9, 2023

The PCF8574/74A provides general-purpose remote I/O expansion via the two-wire bidirectional I<sup>2</sup>C#bus (serial clock (SCL), serial data (SDA)).

The devices consist of eight quasi-bidirectional ports, 100 kHz I<sup>2</sup>C#bus interface, three hardware address inputs and interrupt output operating between 2.5 V and 6 V. The quasi-bidirectional port can be independently assigned as an input to monitor interrupt status or keypads, or as an output to activate indicator devices such as LEDs. System controller can read from the input port or write to the output port through a single register.

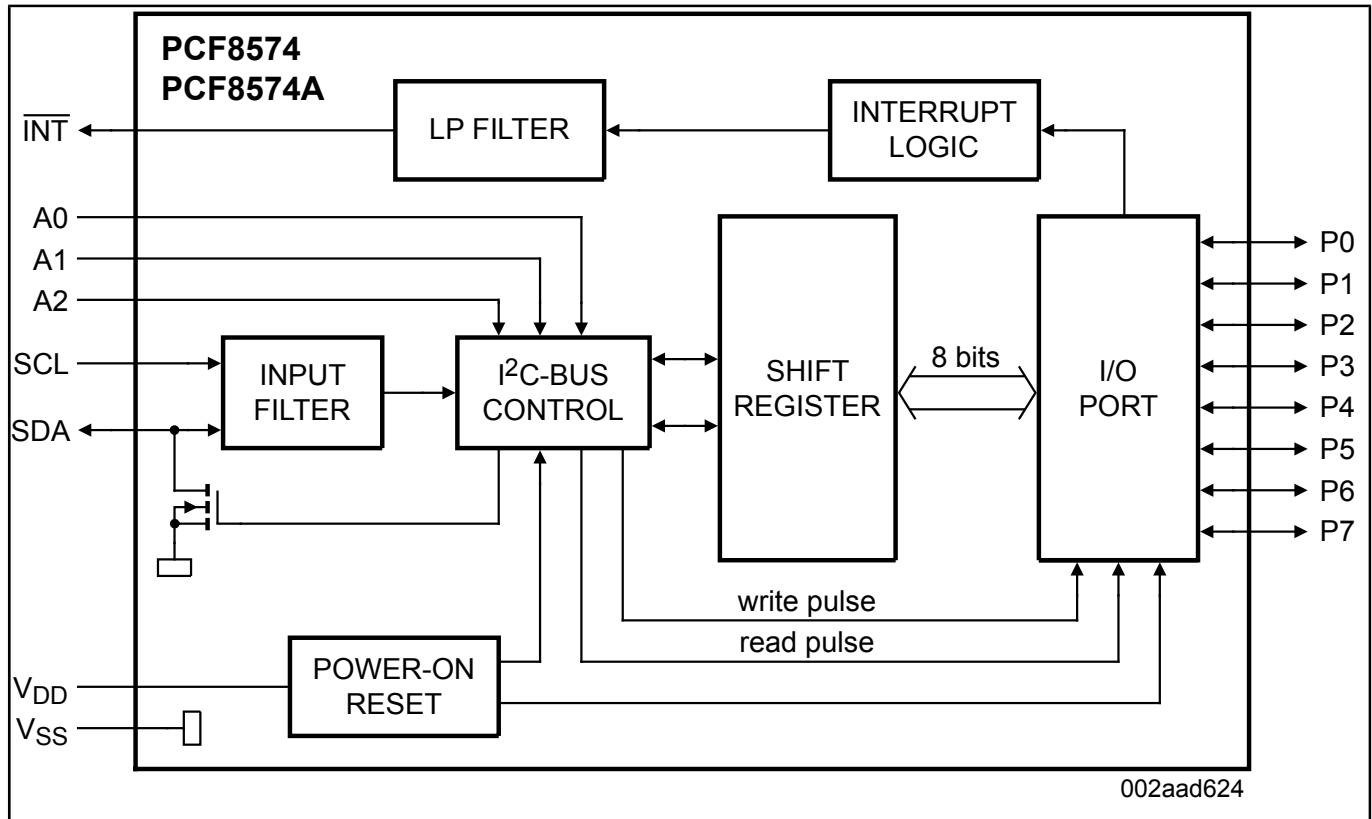
The low current consumption of 2.5  $\mu$ A (typical, static) is great for mobile applications and the latched output ports directly drive LEDs.

The PCF8574 and PCF8574A are identical, except for the different fixed portion of the target address. The three hardware address pins allow eight of each device to be on the same I<sup>2</sup>C#bus, so there can be up to 16 of these I/O expanders PCF8574/74A together on the same I<sup>2</sup>C#bus, supporting up to 128 I/Os (for example, 128 LEDs).

The active LOW open-drain interrupt output (INT) can be connected to the interrupt logic of the microcontroller and is activated when any input state differs from its corresponding input port register state. It is used to indicate to the microcontroller that an input state has changed and the device needs to be interrogated without the microcontroller continuously polling the input register via the I<sup>2</sup>C#bus.

The internal Power-On Reset (POR) initializes the I/Os as inputs with a weak internal pull-up 100  $\mu$ A current source.

## PCF8574-PCF8574A Block Diagram Block Diagram



View additional information for [Remote 8-Bit I/O Expander for I<sup>2</sup>C#Bus with Interrupt](#).

Note: The information on this document is subject to change without notice.

[www.nxp.com](http://www.nxp.com)

NXP and the NXP logo are trademarks of NXP B.V. All other product or service names are the property of their respective owners. The related technology may be protected by any or all of patents, copyrights, designs and trade secrets. All rights reserved. © 2024 NXP B.V.