



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

## PCA9670PW

Last Updated: Apr 19, 2023

The PCA9670 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, 1 MHz 30 mA drive I<sup>2</sup>C#bus interface, three hardware address inputs and a reset input operating between 2.3 V and 5.5 V. 1 MHz I<sup>2</sup>C#bus Fast#mode Plus (Fm+) can support PWM dimming of LEDs, and higher I<sup>2</sup>C#bus drive 30 mA allows more devices to be on the bus without the need for bus buffers. 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. The 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 have 25 mA high current sink drive capability for directly driving LEDs.

The PCA9670 has three hardware address pins and allows up to 64 of these PCA9670 I/O expanders on the same I<sup>2</sup>C#bus without the need for bus buffers, supporting up to 512 I/Os (for example, 512 LEDs).

The internal Power-On Reset (POR) and active LOW hardware reset pin (RESET) initialize the I/Os as inputs with a weak internal pull-up 100  $\mu$ A current source.



**[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.