



# Eight-Channel Ultra-Low Voltage, Fm + I<sup>2</sup>C-Bus Switch with Reset

## PCA9848

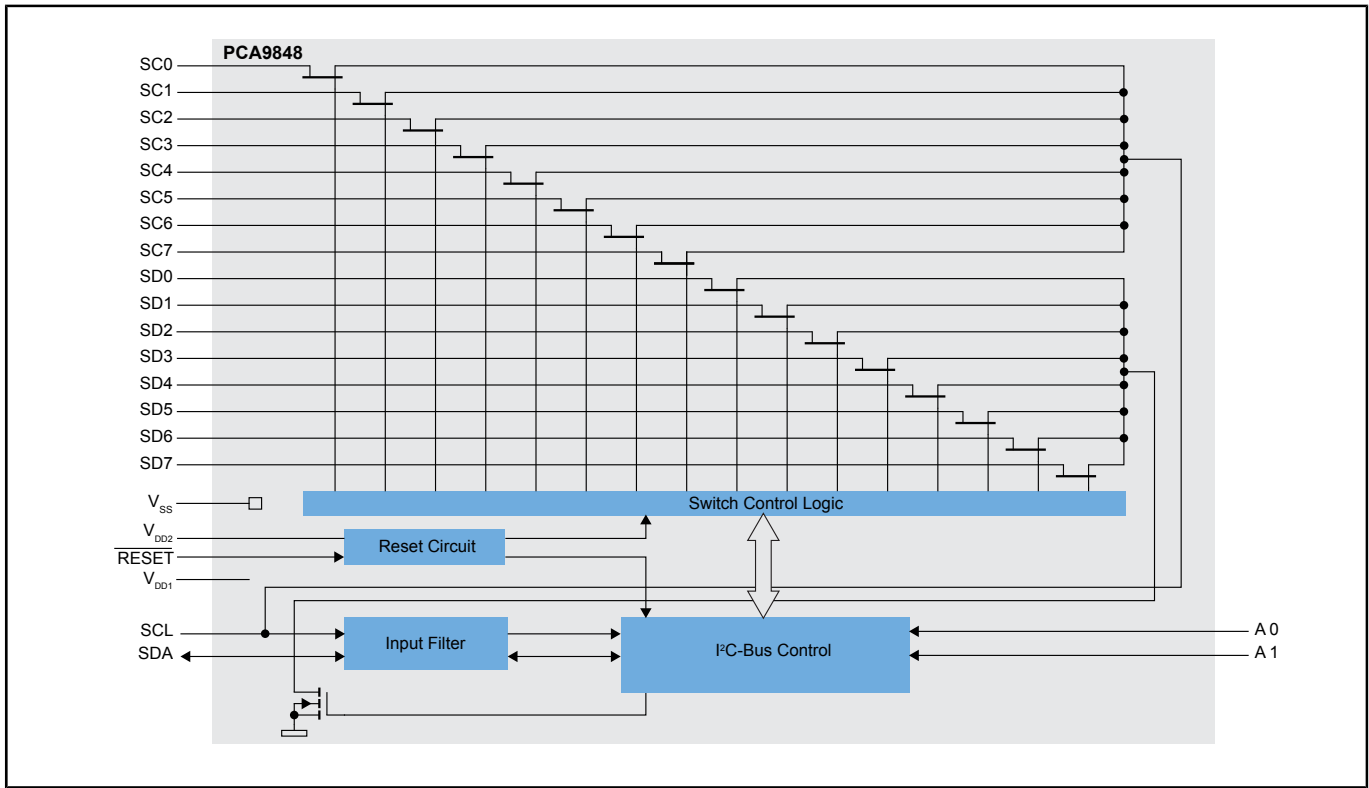
Last Updated: Jan 16, 2024

The PCA9848 is an ultra-low voltage, octal bidirectional translating switch controlled via the I<sup>2</sup>C-bus. The SCL/SDA upstream pair fans out to eight downstream pairs, or channels. Any or all SCx/SDx channels can be selected, determined by the programmable control register. This feature allows multiple devices with the same I<sup>2</sup>C-bus address to reside on the same bus. The switch device can also separate a heavily loaded I<sup>2</sup>C-bus into separate bus segments, eliminating the need for a bus buffer.

An active LOW reset input allows the PCA9848 to recover from a situation where one of the downstream I<sup>2</sup>C-buses is stuck in a LOW state. Pulling the RESET pin LOW resets the I<sup>2</sup>C-bus state machine and deselects all the channels, as does the internal Power-On Reset (POR) function.

The pass gates of the switches are constructed such that the VDD1 pin is used to limit the maximum high voltage which is passed by the PCA9848. This allows the use of different bus voltages on each channel, so that 0.8 V, 1.8 V, 2.5 V or 3.3 V parts can communicate without any additional protection. External pull-up resistors pull the bus up to the desired voltage level for each channel. All I/O pins are 3.6 V tolerant.

# PCA9848 Block Diagram



View additional information for [Eight-Channel Ultra-Low Voltage, Fm+ I<sup>2</sup>C-Bus Switch with Reset](#).

**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.