24-Channel SPI Serial Bus 63 mA/5.5 V Constant Current LED Driver

PCA9959

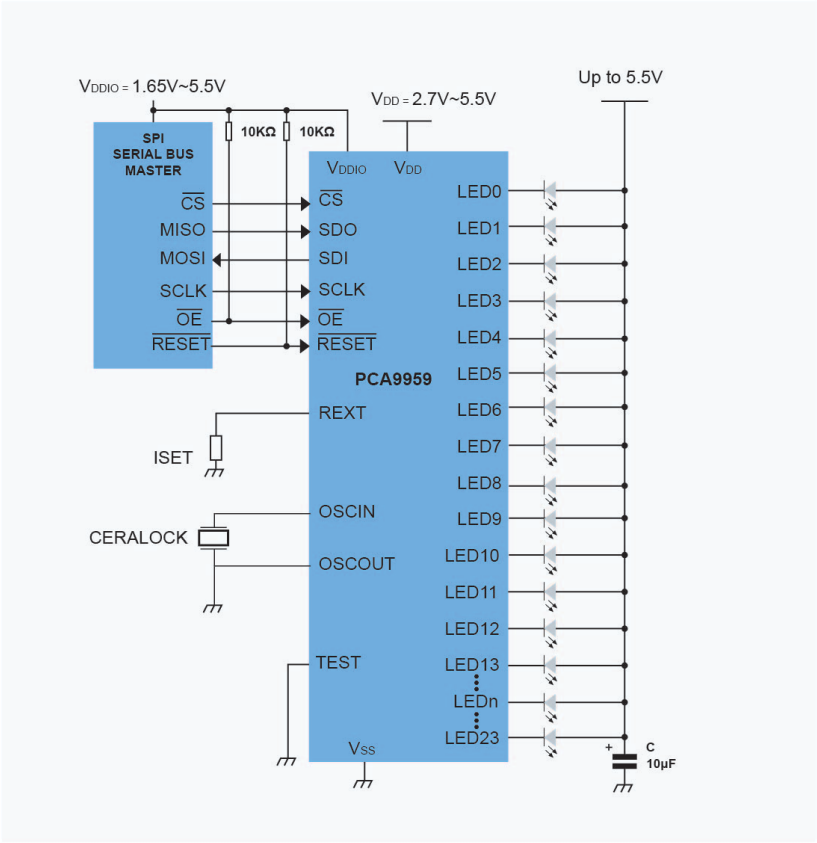
Last Updated: Dec 15, 2024

The PCA9959 is a daisy-chain SPI-compatible 4-wire serial bus controlled by a 24-channel constant preset current LED driver optimized for dimming and blinking 63 mA Red/green/blue/amber (RGBA) LEDs.

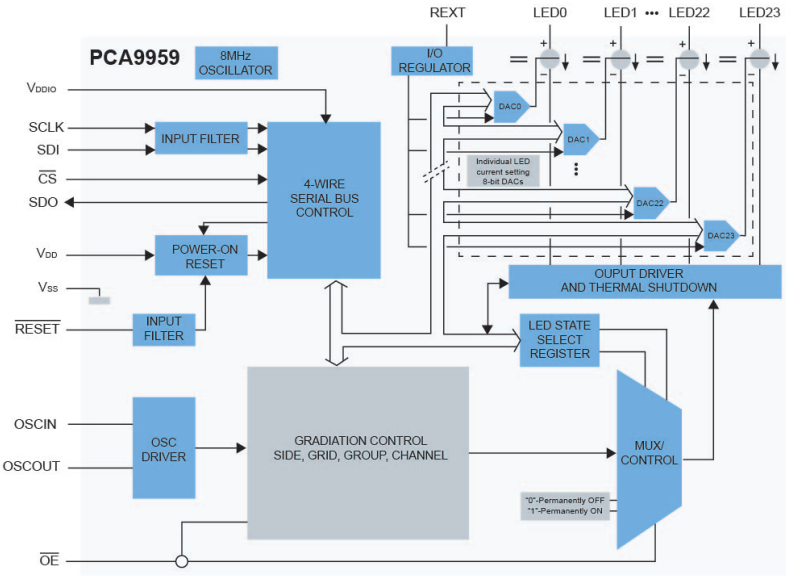
Each LED output has its own 6-bit resolution (64 steps) preset current configuration, with an absolute accuracy of ±8 %.

PCA9959 supports up to four groups of LED gradation control, with each LED channel assigned to one of the groups. For each group, PCA9959 supports 64-grid brightness control, with the time duration of each grid adjustable from 2.5 µs to 1 ms. Each LED output can be off, on or set at its individual preset current value within each grid. Once gradation control enabled, PCA9959 will automatically change each LED preset current with the setup from grid0 to grid63. Once finished, it can hold grid63 or repeat from grid0 as configured.

PCA9959 Block Diagram Block Diagram



PCA9959 Applications Block Diagram Block Diagram



View additional information for 24-Channel SPI Serial Bus 63 mA/5.5 V Constant Current LED Driver.

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

---

www.nxp.com