

AS3693A

16 channel high precision LED driver for LCD backlight

The AS3693A is a 16 channels high precision LED driver with built in PWM generators for building backlight panels in LCD-TV-sets.

External clock and synchronizing inputs allow the synchronization of the LCD backlight with the TV picture. Local dimming and scan dimming is supported by 16 independent PWM generators with programmable delay, period and duty cycle. Three free configurable dynamic power feedback circuits make the device usable for white LED as well as RGB backlights. Built in safety features include thermal shutdown as well as open and short LED detection. All circuit parameters are programmable via I2C or SPI interface.

2 Key Features

- 16 independent LED channels
- Output current 70mA
- Output voltage up to 50V
- Absolute current accuracy $\pm 0.5\%$

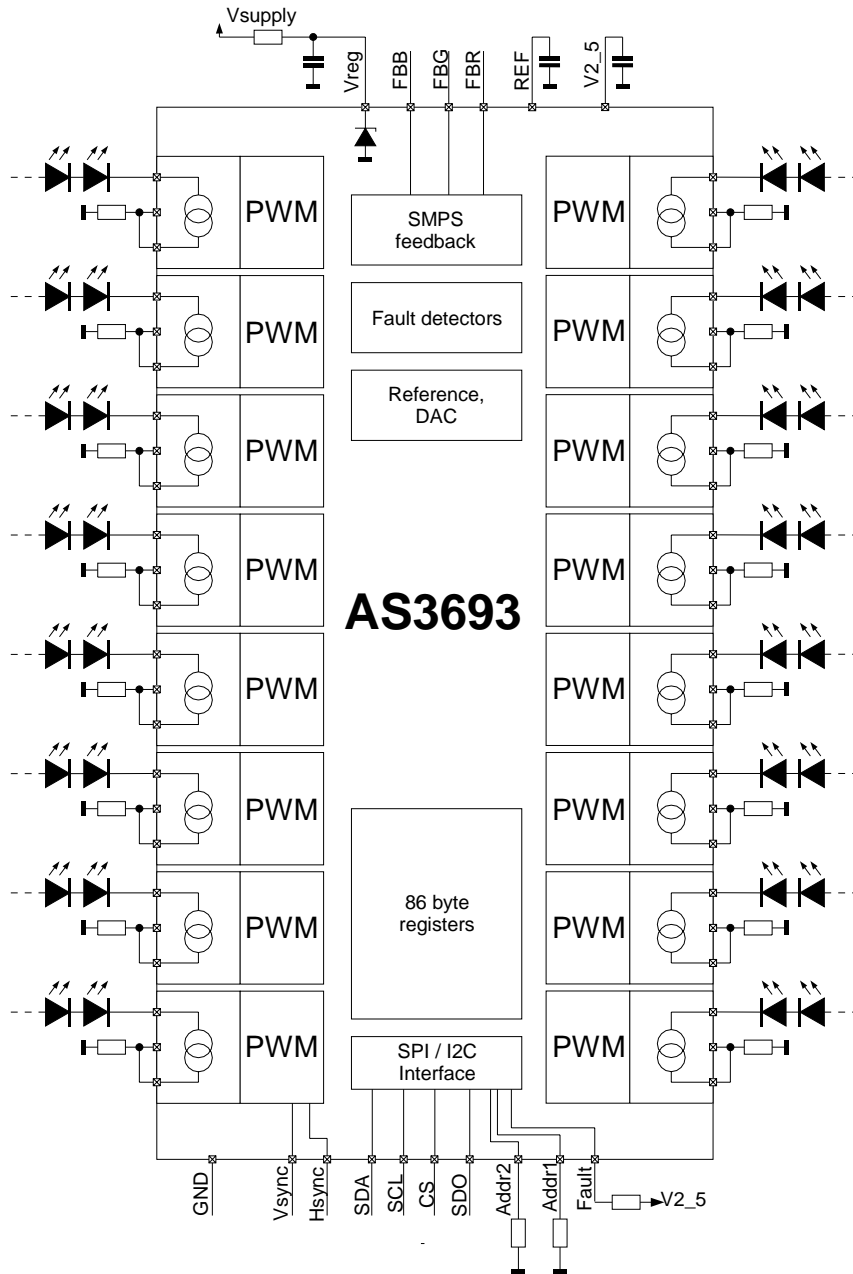
- Current programmable with external resistor
- 16 independent PWM generators with 12 bit resolution
- H-Sync, F-Sync inputs to synchronize with TV-set
- Three independent power feedback for R-, G-, B-supply regulation
- Built in 5V shunt regulator
- I2C or SPI interface with 6 bit address
- Fault interrupt output
- Open LED detection
- Short LED detection
- Temperature shutdown

- Package epTQFP64

3 Application

LED Backlighting for LCD – TV Sets and Monitors

Block Diagram



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