



**Product Number: AS3693B-ZTQW**  
**16 channel high precision LED controller for LCD backlight**

**Description:**

The AS3693B is a 16 channels high precision LED controller with built in PWM generators for driving external FETs in LCD-backlight panels.

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.

**Features:**

- 16 independent LED channels
- External FET control and current sensing
- Output voltage sense up to 50V
- Absolute current accuracy  $\pm 0.5\%$
- Output slew rate limited to reduce EMI
- Current programmable with external resistor
- 16 independent PWM generators with 12 bit resolution
- H-Sync, V-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 5 bit device address
- Fault interrupt output
- Open LED detection
- Short LED detection
- Temperature shutdown
- Package epTQFP64

## Applications:

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