

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

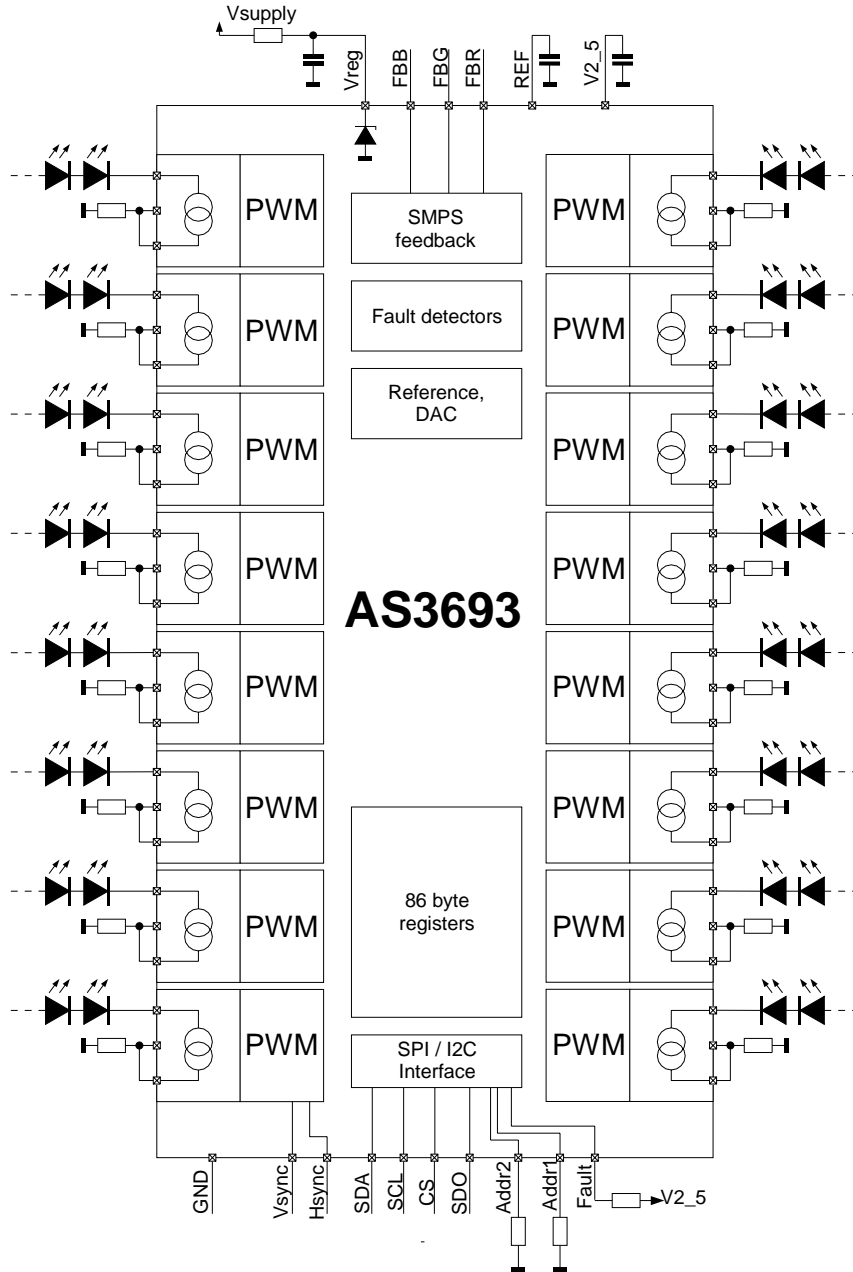
- 16 independent LED channels
- Output current 70mA
- Output voltage up to 50V
- Absolute current accuracy $\pm 0.5\%$

- 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



Copyright

Copyright © 1997-2007, austriamicrosystems AG, Schloss Premstaetten, 8141 Unterpremstaetten, Austria-Europe. Trademarks Registered ®. All rights reserved. The material herein may not be reproduced, adapted, merged, translated, stored, or used without the prior written consent of the copyright owner.

All products and companies mentioned are trademarks or registered trademarks of their respective companies.

Disclaimer

Devices sold by austriamicrosystems AG are covered by the warranty and patent indemnification provisions appearing in its Term of Sale. austriamicrosystems AG makes no warranty, express, statutory, implied, or by description regarding the information set forth herein or regarding the freedom of the described devices from patent infringement. Austriamicrosystems AG reserves the right to change specifications and prices at any time and without notice. Therefore, prior to designing this product into a system, it is necessary to check with austriamicrosystems AG for current information.

This product is intended for use in normal commercial applications. Applications requiring extended temperature range, unusual environmental requirements, or high reliability applications, such as military, medical life-support or lifesustaining equipment are specifically not recommended without additional processing by austriamicrosystems AG for each application. For shipments of less than 100 parts the manufacturing flow might show deviations from the standard production flow, such as test flow or test location.

The information furnished here by austriamicrosystems AG is believed to be correct and accurate. However, austriamicrosystems AG shall not be liable to recipient or any third party for any damages, including but not limited to personal injury, property damage, loss of profits, loss of use, interruption of business or indirect, special, incidental or consequential damages, of any kind, in connection with or arising out of the furnishing, performance or use of the technical data herein. No obligation or liability to recipient or any third party shall arise or flow out of austriamicrosystems AG rendering of technical or other services.



Contact Information

Headquarters

austriamicrosystems AG
A-8141 Schloss Premstätten, Austria
T. +43 (0) 3136 500 0
F. +43 (0) 3136 5692

For Sales Offices, Distributors and Representatives, please visit:
<http://www.austriamicrosystems.com/contact>