NCV7694

Safety Controller for Infra-Red LED Illumination to Complement the Image Sensor for Automotive Applications

Product Overview

For complete documentation, see the data sheet.

The NCV7694 is a device which can drive a string of infrared LEDs using an external mosfet. The IR LEDs are used to illuminate the surroundings of the image sensor. Since these LEDs can damage the end users' eyes, the power feed to the LEDs needs to be turned off during a fault condition.
The NCV7694 driver features prevents the IR LEDs from being ON too long due to an inappropriate exposure time or being turned on too frequently using external resistors. The value of the RETL resistor defines the maximum TON time of the emitted light intensity and the value of the RFRL resistor defines the maximum frequency of the FLASH signal from the image sensor. A LED driver with hardware interlocks helps protect the users' eyes in cases where the control signal has failed or a fault in the LED power path has occurred. LED brightness level is easily programmed using an external resistor in series with the mosfet transistor. The device can also detect Open Load, Short Circuit to GND and VS. Faults are reported to the DIAG pin, which can directly disable the DC/DC converter to prevent possible damage. The device is available in 10 pin DFN package.

Features

- Safety Feature Prevent Being ON too long
- Safety Feature Prevent Being ON too frequently
- Constant Current Output for LED String Drive
- FLASH Input Pin
- Open LED Diagnostic Detection
- Short LED to GND and VS Detection
- External Resistor Defining max ON time
- External Resistor Defining min OFF time
- Protection against Short to Ground and Open of the External Resistors
- Detection and Protection Against Under-Voltage and over Temperature

  For more features, see the data sheet

Benefits

- Provides eye-safety functionallity
- Provides eye-safety functionallity

Applications

- In−Cabin Monitoring Sensor for DMS and OMS
- Infrared Illumination for Automotive Cameras
- Machine Vision Systems
- Surveillance Systems

End Products

- Automotive
- Driver Monitoring System
- Occupant Monitoring System

Part Electrical Specifications

Product	Pricing ($/Unit)	Compliance	Status	V_I Max (V)	I_O Max (mA)	LEDs in Series, Max #	LEDs in Parallel, Max #	Package Type
NCV7694MW0R2G	0.3792	A P Pb H	Active	28	>1000	8		DFNW-10