Melexis
INSPIRED ENGINEERING

MLX81117

MULTI-CHANNEL (RGB)-LED DRIVER

HIGH-SPEED ANIMATED LIGHTING

SMART MULTI-CHANNEL (RGB)-LED DRIVER ENABLES HIGH-SPEED LIGHT ANIMATIONS

The MLX81117 is a fully integrated smart automotive LED driver with high-speed robust communication (MeLiBu™) between multiple LED drivers to enable applications with high LED counts for highly animated light applications. All necessary components needed for LED driving as well as communication are integrated and allow to develop powerful and cost-optimized animated light systems. For applications requiring RGB-LEDs, the embedded intelligence allows a very high accuracy of the needed color mixing. ASIL-B grade applications are supported as well thanks to the MeLiBu™ communication system.

KEY FEATURES

- MCU for extended LED control algorithm, color mixing and full diagnosis
- Red/Green and Blue LED temperature compensation without additional external components
- Color mixing accuracy of < 1% delta UV
- 16-bit color/intensity control
- Storage of LED calibration data directly within LED driver
- Low side programmable calibrated current sources for LED control

- Direct LED drive without additional external components
- LEDs fully diagnosable (Short circuit, broken line, threshold monitor)
- MeLiBu ™ communication interface
- Real-time update of > 250 RGB LEDs without delay
- 5.5 - 18 V supply voltage (40 V proof)
- ASIL B classification
- QFN32 5x5 package, 32 pins
- 16 LED drivers

KEY APPLICATIONS

- Adaptive roof light
- Highly animated light modules
- Smart light bar
- Advanced driver communication by light
  - Safety warning applications
  - Advanced navigation support
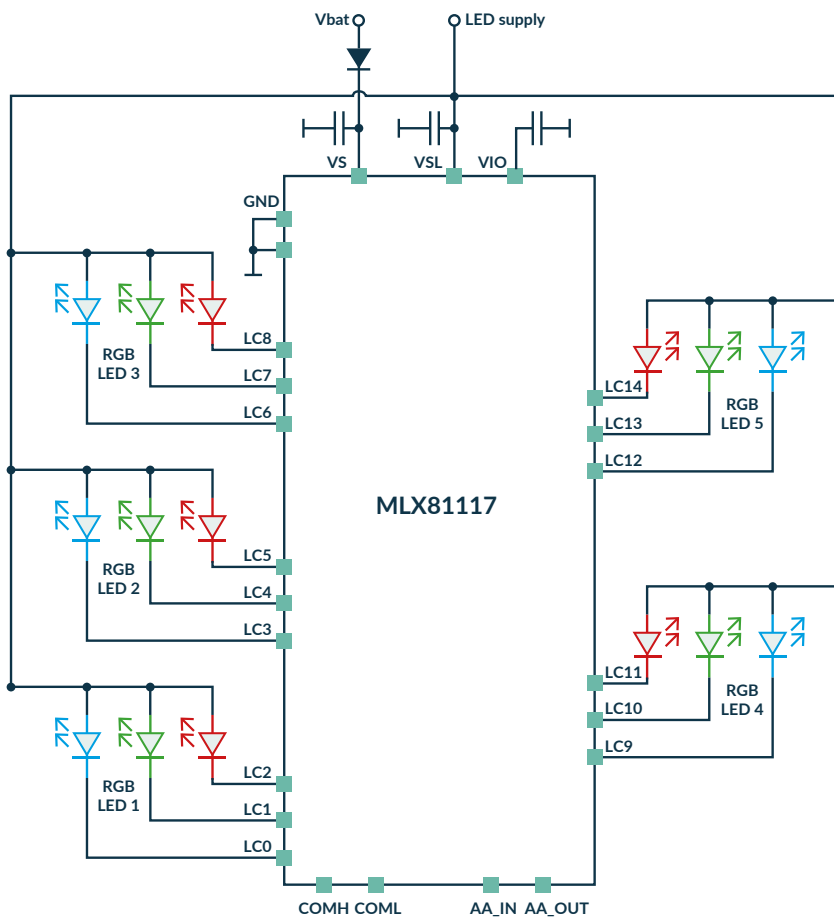 - Blindspot warning

MeLiBu™
by Melexis

Melexis

APPLICATION VISUAL

Discover the cockpit of the future with our MLX81117 enabling an (RGB-)LED light bar to communicate through smart lighting.

BLOCK DIAGRAM

MLX81117 - typical application for direct driver of 5 RGB LEDs