

**MLX81117**

**MULTI-CHANNEL (RGB)-LED DRIVER**

**HIGH-SPEED  
ANIMATED LIGHTING**



Chameleons are famous for their quick skin color-changing abilities. They change color in response to environmental changes. We therefore link these wonderful creatures to our LIN RGB products which enable changing ambient light according to the car driver's preference.

## 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

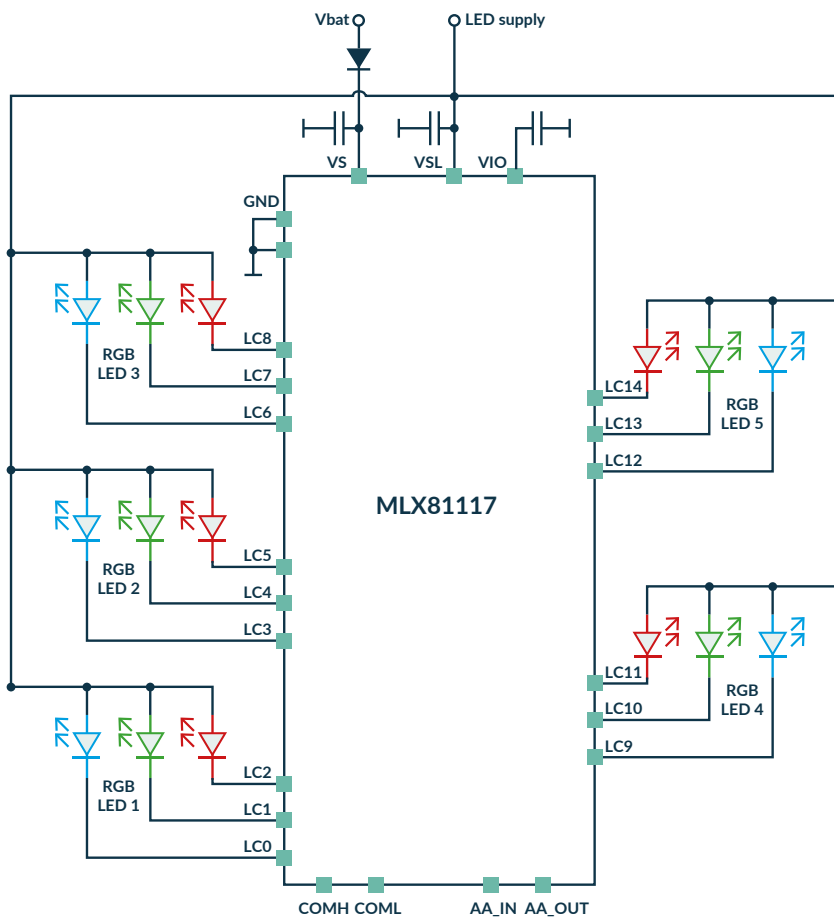
## APPLICATION VISUAL



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



The above information is "as is" and believed to be correct and accurate. Melexis disclaims any and all liability in connection with or arising out of the furnishing, application or use of the information or products; any and all liability, including without limitation, special, consequential or incidental damages; and any and all warranties, express, statutory, implied, or by description, including warranties of fitness for particular purpose, non-infringement and merchantability. Melexis reserves the right to change it at any time and without notice. Users should obtain the latest version of the information to verify it is current. Users must further determine the suitability of a product for its application, including the level of reliability required and determine whether it is fit for a particular purpose. Export control regulations may apply and export might require a prior authorization from competent authorities. Melexis' products are intended for use in normal commercial applications. Unless otherwise agreed upon in writing, the products are not designed, authorized or warranted to be suitable in applications requiring extended temperature range and/or unusual environmental requirements. High reliability applications, such as medical life-support or life-sustaining equipment are specifically not recommended by Melexis. Melexis' products are sold under the Melexis' Terms of Sale, which can be found at <https://www.melexis.com/en/legal/terms-and-conditions>.