



# MPQ3326

## 16 Channels, 50mA/ch, LED Driver With Separated PWM Analog Dimming and I2C Interface

**PRELIMINARY SPECIFICATIONS SUBJECT TO CHANGE**

### DESCRIPTION

The MPQ3326 is a 16-channel WLED driver operates in a wide input voltage from 4V to 16V. The MPQ3326 applies 16 internal current sources in each LED string terminal. The LED current of each channel is set by an external current-setting resistor. The maximum current of each channel is up to 50mA( $V_{IN} \geq 4.5V$ ).

MPQ3326 integrates the I2C interface. 10 different I2C addresses programmable by external resistor that makes MPQ3326 supports up to 10 pieces of IC in cascaded to drive LED array. Each channel can be enabled or disabled through I2C. MPQ3326 employs both separated PWM dimming and analog dimming for each LED channel, 12-bit resolution PWM dimming and 6-bit analog dimming for each channel. To optimize the EMI/EMC performance, The LED current ramp rate and phase shift can be programmed.

MPQ3326 can output a refresh signal from RFSH/FLT pin, the refresh signal frequency can be set by register.

The Open-Load protection, Short-Load protection and Over-Temperature protection are integrated. The fault indicator pulls to low when protection is triggered and meanwhile the corresponding fault register is set.

The MPQ3326 is AECQ-100 qualified, and is available in QFN24-4mmX4mm.

### FEATURES

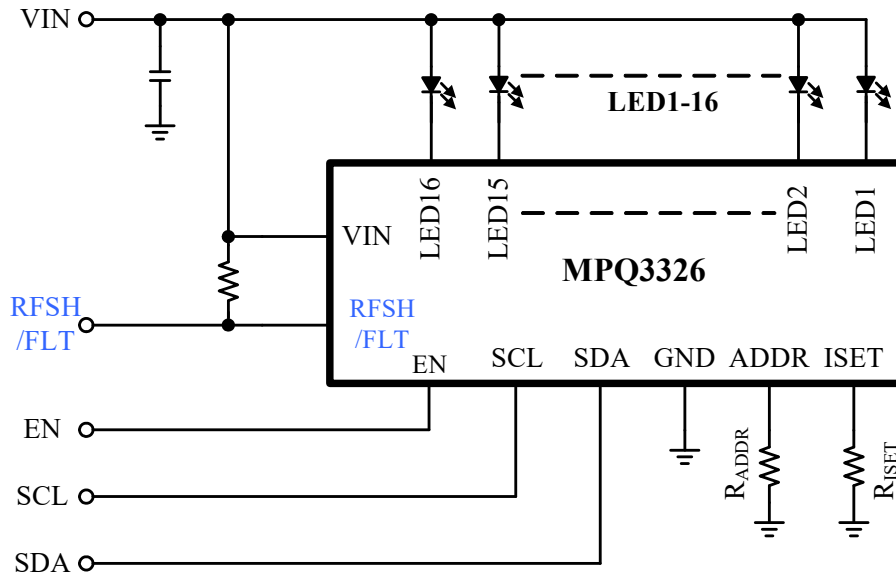
- Wide Input Voltage Range 4-16V
- 16 Channels, 50mA/ch max( $V_{IN} \geq 4.5V$ )
- LED Current Programmed by External Resistor
- 6-bit Analog Dimming for Each Channel
- 12-bit PWM Dimming for Each Channel
- PWM dimming frequency Selectable 220/250/280/330Hz
- Refresh Signal Output
- I2C Interface
- 10 Addresses Programmable by External Resistor
- LED Current Slew Rate Programmable
- Phase Shift (40us)
- Fault Indicator
- LED Open Protection
- LED Short Protection, Programmable Threshold
- UVLO
- Over Temperature Protection
- AECQ-100
- ELV Directive II Compliance
- QFN24-4\*4mm

### APPLICATIONS

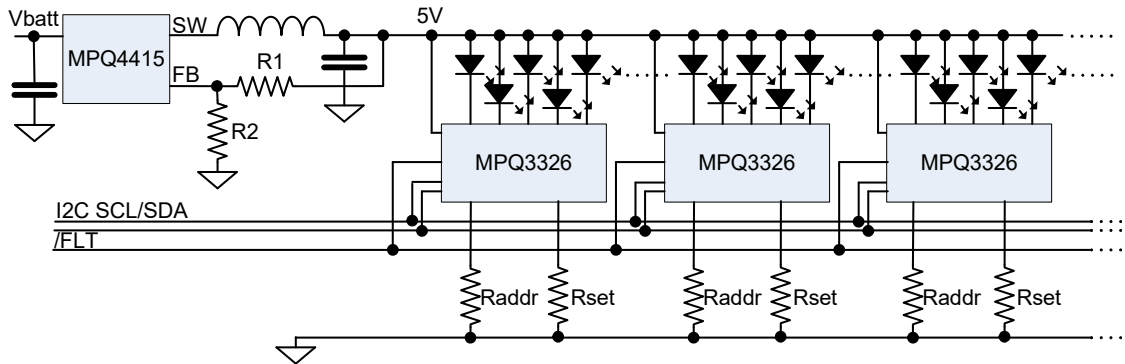
- Automotive Light
- Automotive Display
- Instruments Cluster
- General industrial Display

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### TYPICAL APPLICATION



**Typical Application Circuit**



**(All external resistors should be <100kohm)**