



Product brief

BCR602

60 V linear LED controller IC for dimmable LED applications

The BCR602 makes a perfect fit for LED applications such as light engines, modules, and strips by combining a small form factor with low cost. Through its higher integration, BOM savings and protecting long lifetime of LEDs, this controller has many advantages over discrete, and in various cases, DC-DC buck IC solutions.

Linear current control

The BCR602 is a linear LED controller IC regulating the LED current with an external driver transistor. The BCR602 supports either NPN bipolar transistors or N-channel MOSFETs to cover a wide LED current and power range up to several amperes. The LED current is fully scalable by dimensioning an external current sense resistor.

Ripple suppression

BCR602 suppresses the voltage ripple of the power supply by driving a constant LED current for high light quality and thus flicker free light.

Multiple dimming options

The LED current can be dimmed by resistors as well as analog or digital PWM voltages connected to the multi function input output (MFIO) pin down to 1%.

Hot-plug capable

The embedded hot-plug protection allows to plug in and plug out any LED load during operation without damaging the LEDs.

Overtemperature protection

The overtemperature protection feature reduces the LED current by 30 percent of the nominal current if the junction temperature threshold is exceeded. Once the junction temperature drops below the temperature hysteresis, the nominal LED current is resumed.

Key features

- > Supply voltage from 8 V to 60 V
- > AC ripple suppression
- > Supports wide current range depending on external driver transistor
- > Gate driver current 10 mA
- > LED current can be adjusted by R_{set} functionality
- > Various dimming options at MFIO pin
 - Analog down to 3 percent
 - PWM down to 1 percent
- > Hot-plug capable
- > LED current precision ± 3 percent
- > Overtemperature protection

Typical applications

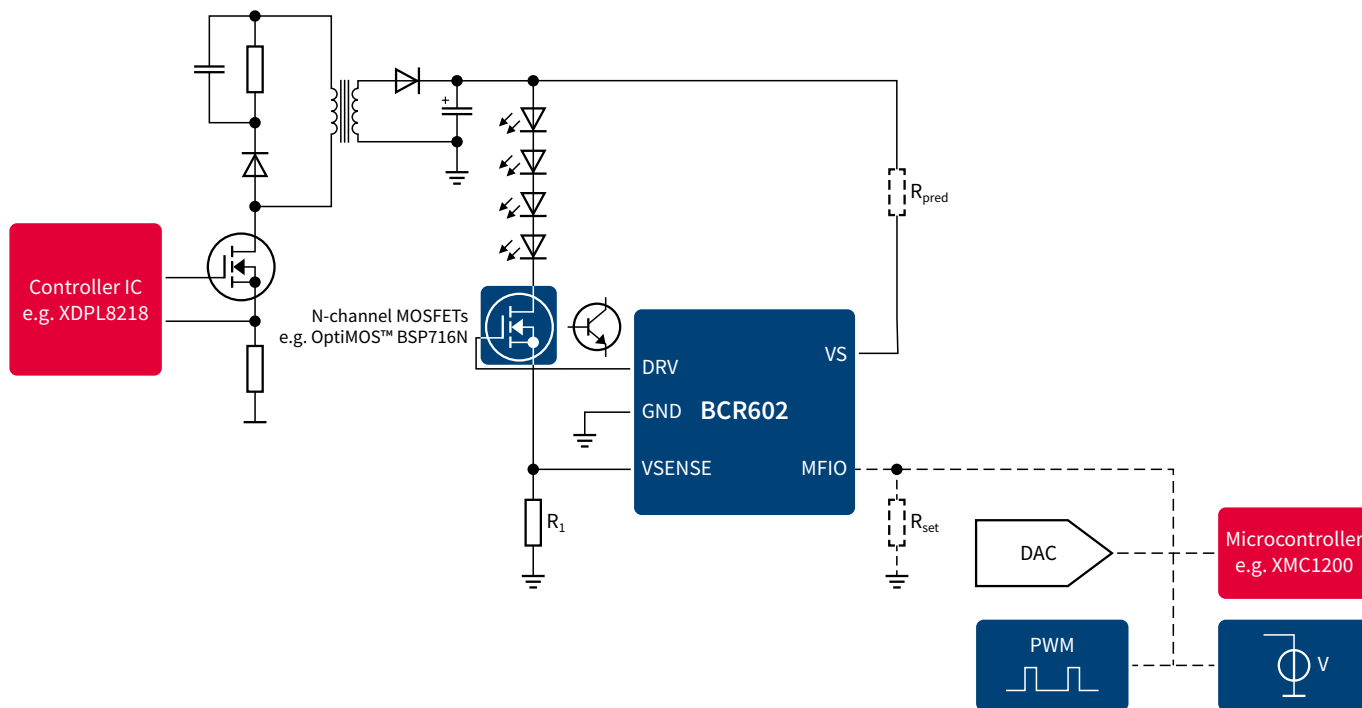
- > LED light engines
- > LED modules
- > LED strips



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Typical application diagram



Order information

Type	Description	Order information
BCR602	60 V linear LED controller IC	BCR602XTSA1
DEMO_BCR602_60V_ICTRL	60 V demo board BCR602, 200 mA with BSP716N OptiMOS™	DEMOBCR60260VICTRL

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