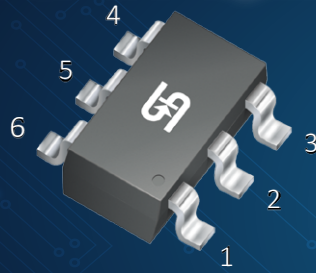


TSCR420CX6H, TSCR421CX6H

Automotive Constant Current Regulated LED Driver



Pin Definition

- | | |
|--------|---------------------|
| 1. EN | 6. R _{EXT} |
| 2. OUT | 5. OUT |
| 3. OUT | 4. GND |

The [TSCR420](#) & [TSCR421](#) are Low-Side Constant Current Regulator (CCR) for linear LED driving. The device regulates with a preset 10mA nominal that can be adjusted with an external resistor up to 300mA. It is designed for driving LEDs in strings and will reduce current at increasing temperatures to self-protect. Operating as a series linear CCR for LED string current control, it can be used in multiple applications, as long as the maximum supply voltage to the device is <40V. With the low-side control, the [TSCR421](#) has an Enable (EN) pin which can be pulse-width modulated (PWM) up to 10kHz by a microcontroller for LED dimming. The output current at higher temperatures is the result of the negative temperature coefficient of 0.07%/°C of the LED driver.

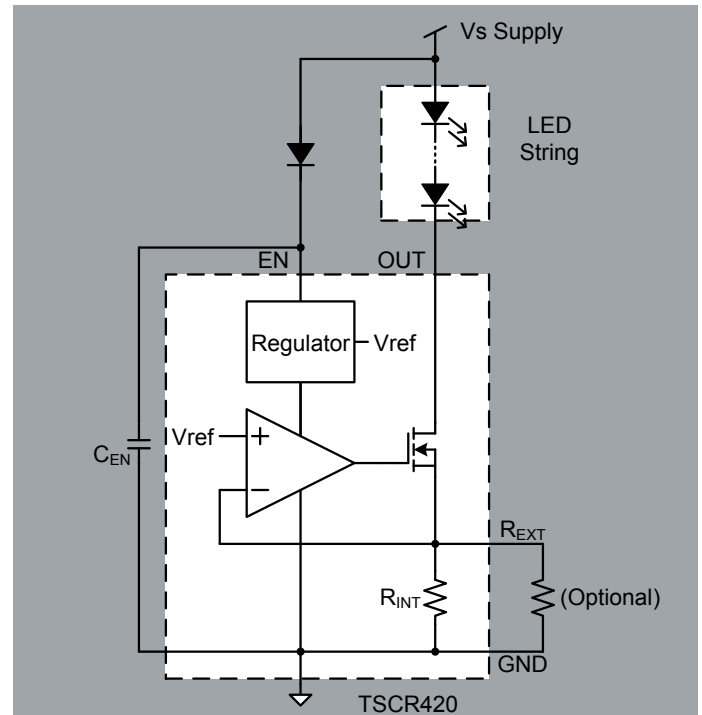
Key Features & Advantages

- AEC-Q100 qualified with the following results:
 - Device temperature grade 1: -40°C to 125°C
 - Device HBM ESD classification level H2
 - Device CDM ESD classification level C6
- Low-side control Linear Constant Current Regulator:
- LED drive current present 10mA
- Very low enable current
- Adjustable output current with external resistor up to 300mA
- Supply voltage up to 40V
- Easy paralleling of drivers to increase current
- Good temperature coefficient vs. output current
- Digital PWM input up to 10kHz (TSCR421CX6)
- PPAP capable

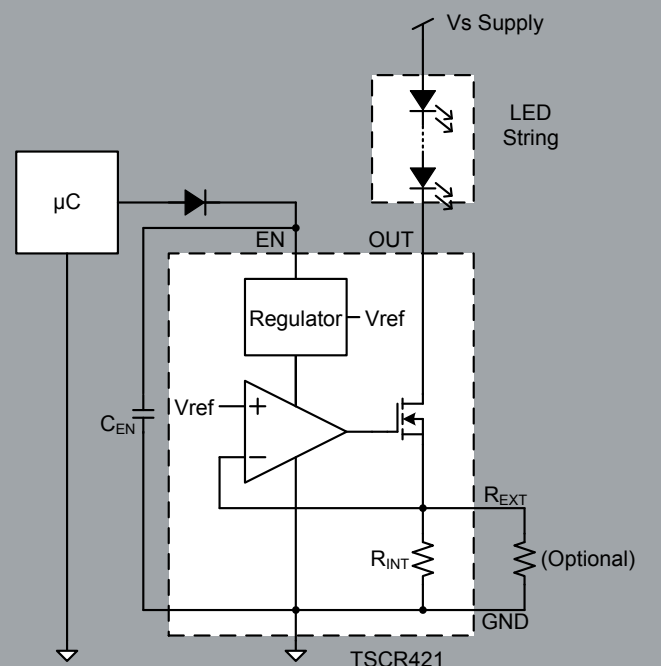
Application

- Ambient light
- Interior light
- Turn signals
- Instrument cluster illumination
- Rear cluster lighting
- Puddle & Sill lights
- Reading light

Typical Application Circuit



Application Circuit for LED Driver with High voltage EN Pin



Application Circuit for LED Driver with PWM Dimming Functionality

