

150mA DUAL CHANNEL LED DRIVER WITH FAULT DETECTION

Advance Information
Oct 2016

GENERAL DESCRIPTION

The IS32LT3126 is a dual linear programmable current regulator consisting of 2 output channels; each channel capable of 150mA. The two channels can be combined to provide a total of 300mA. It supports PWM dimming via power line. It also features ENx pins to individually enable each channel between the OFF condition and the source condition. The ENx pins also can support PWM signal to adjust the output current. An external resistors program the current level for each of the channels. The UVx pins can be utilized to set the VCC under voltage lockout of each channel to match the LED stack for high side PWM dimming operation.

The IC integrates fault protection for LED open/short, ISETx pin open/short and over temperature condition for robust operation. These failures can be reported by FAULT pin. The FAULT pins can all be tied together to disable the device and other IS32LT3126 devices on the same parallel circuit. In multiple LEDs per string application, the device also supports the single LED short detection by set the resistor divider on the STx pins. The single LED short failure can be reported by the separated FAULT_S pin.

The IS32LT3126 is targeted at the automotive market with end applications to include interior and exterior lighting. For 12V automotive applications the low dropout driver can support 1 to several LEDs per channel.

It is offered in a small thermally enhanced eTSSOP-16 package.

FEATURES

- Dual channels: each channel can source up to 150mA and the two channels combined to source up to 300mA
- Individually programmable current via external resistor
- Individually programmable VCC under voltage lockout to match the LED stack for HS PWM operation
- Individual DPWM control
- Capable of multiple IC parallel operation with fault flag linkage
- Fault protection with flag output:
 - Single LED short (optional to turn off all LEDs)
 - LED string open/short
 - I_{CC} set to 2mA (max) when fault flag is set
 - OUTx pin(s) short to VCC
 - ISETx pin open/short
 - Over temperature
- eTSSOP-16 packages
- Automotive grade - AEC-Q100 (pending)
- Operating temperature range from -40°C ~ +125°C

APPLICATIONS

- Automotive interior/exterior lighting:
 - Turn signal light

TYPICAL APPLICATION CIRCUIT

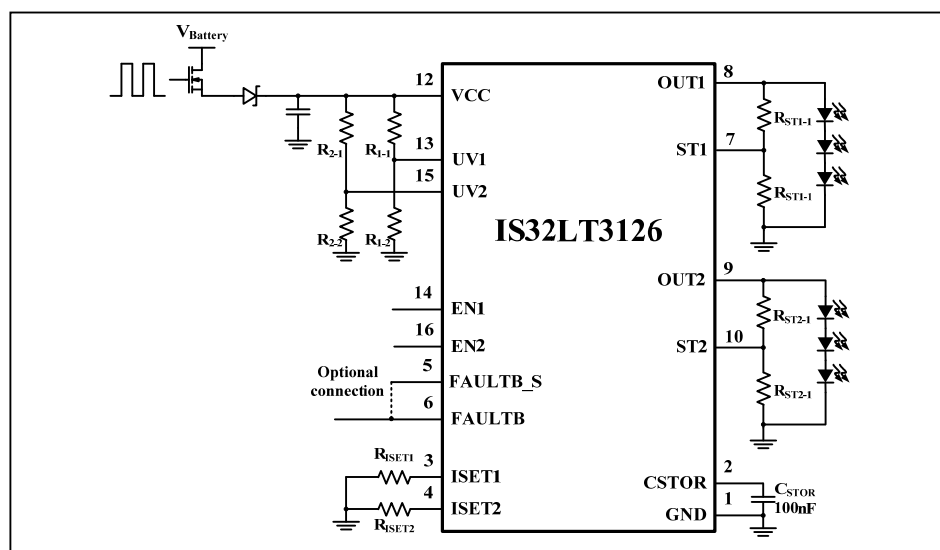


Figure 1 Typical Application Circuit

IS32LT3126

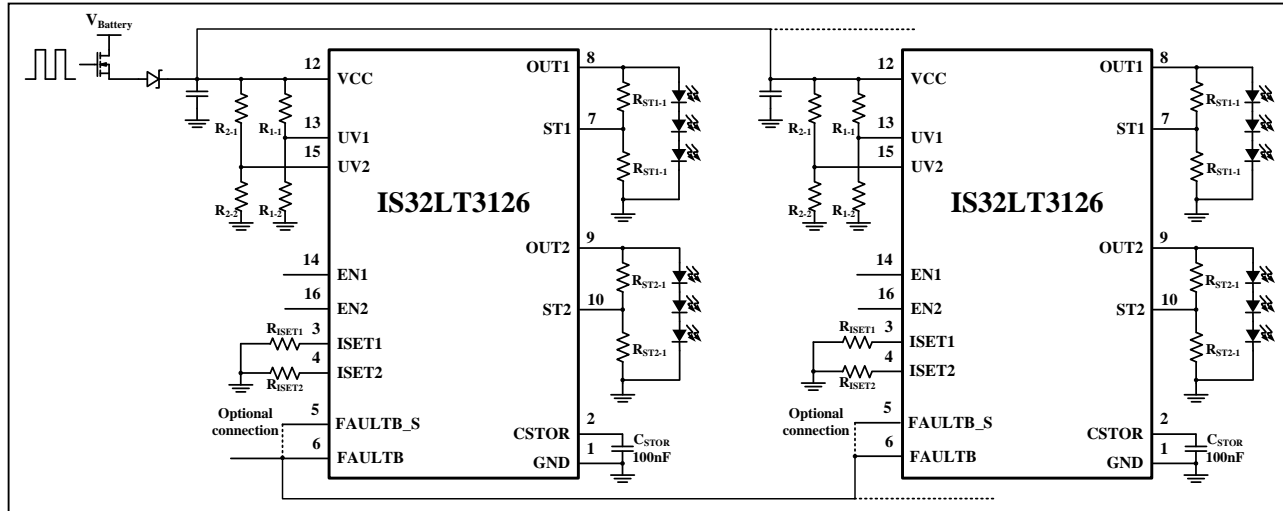


Figure 2 Typical Application Circuit (Several Devices In Parallel with FAULT Interlinkage)