



Worldsemi

WS2811

Signal line 256 Gray level 3 channel
Constant current LED drive IC

Typical application circuit:

1. power supply is 5V with 1 LED and constant current (18.5mA) driving

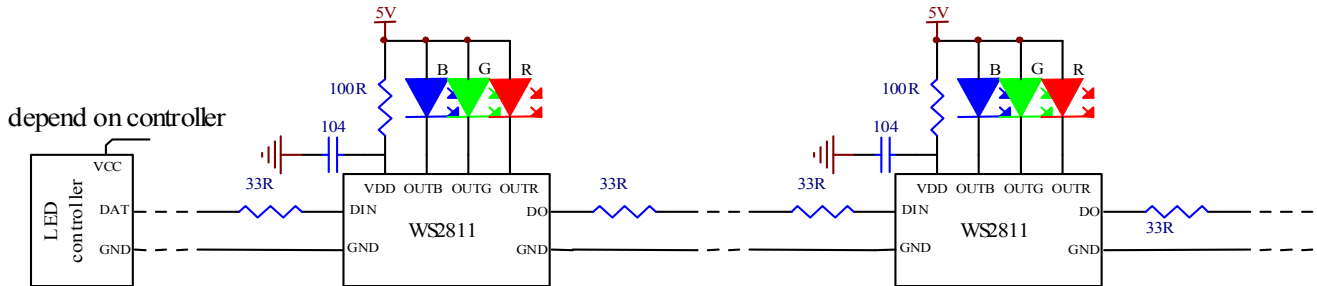


Fig 1

This driving mode use constant current output, the advantage of is the LED can retain luminance and colour temperature when the power supply lessen. We require, in order to prevent power spikes phenomenon and power reverse polarity, series a not more than 100ohm resistor at the po-wer supply pin(VDD). The capacitance 104 as bypass capacitor. To prevent the reflection and hot-swap protection, we suggest to connect a 33 ohm resistor at the data input or output port for impedance.

2. power supply is 12V with 3 LED and constant current(18.5mA) driving

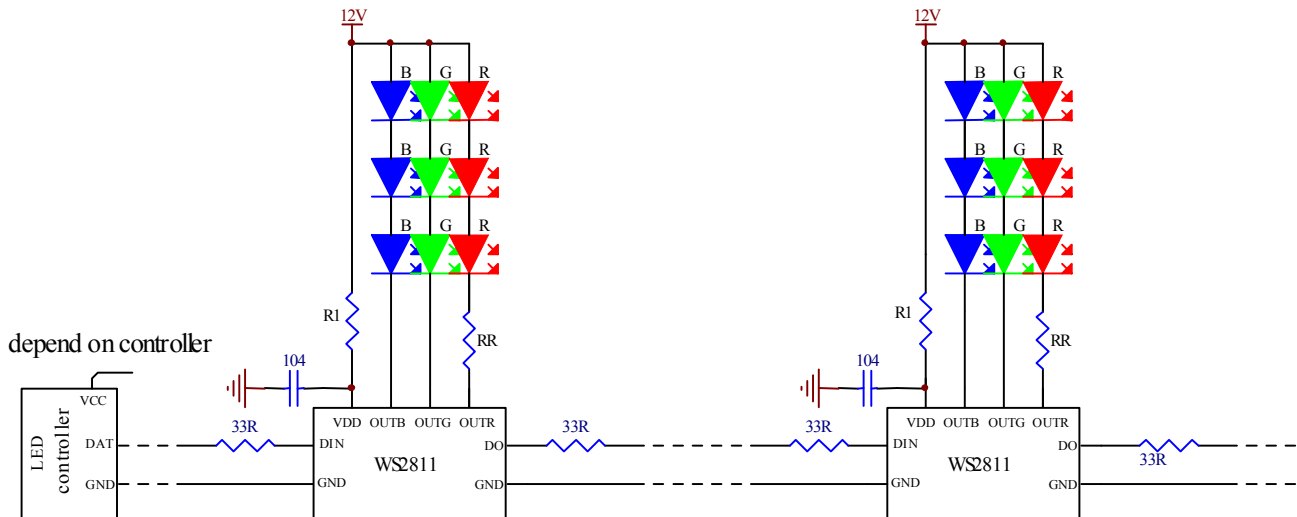


Fig 2

The same as the front mode, it is also use constant current output. In this circuit, R1 is used as the IC internal LDO divider resistance and the value is 2.7K. The capacitance 104 as bypass capacitor. To prevent the reflection and hot-swap protection, we suggest to connect a 33ohm resistor at the data input or output port for impedance. At the OUTF port we should add a divider resistance RR. The value of RR can be derived by the following equation:

$$RR = \frac{12 - 3V_{LEDR}}{18.5} K\Omega$$

V_{LEDR} is the red LED forward conduction voltage drop.