

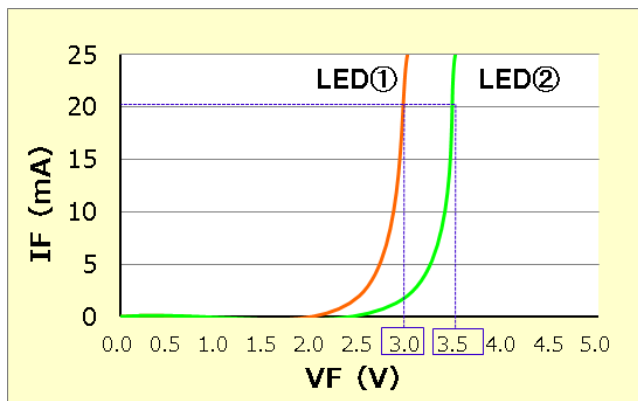
LED Parallel Connection Circuit

About LED Parallel Connection Circuit

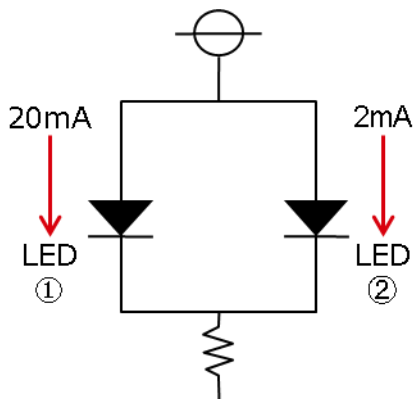
When multiple LEDs are used in a circuit, the brightness of LEDs may vary depending on the circuit configuration. One of the causes is a problem with LED parallel connection circuit. The causes of that unevenness in brightness are described in this section.

Cautions when Connecting LEDs in Parallel

Due to differences in individual forward current-voltage characteristics, when multiple LEDs are used in parallel circuits, differences in the current flowing to each LED are caused by variations in VF values, resulting in differences in luminous intensity.

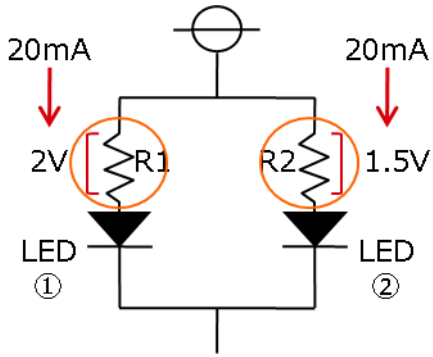


If LEDs with different VF values are driven in a circuit connected in parallel, such as LED①(VF=3.0V/IF=20mA) and LED②(VF=3.5V/IF=20mA), the current flowing to the LED with low VF values will be concentrated and cause differences in luminous intensity.



Circuit Configuration to Reduce the Differences in LED Luminous Intensity

In order to reduce the differences in luminous intensity of each LED, a resistor is attached to each LED when LEDs are connected in parallel, which reduces the gap in current value due to the differences in VF of the LEDs and also make it possible to reduce the differences in luminous intensity.



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