A graph of different colored lines

AI-generated content may be incorrect.

Led recommended current 10-30mA. Maximum is 50mA.

Assuming an input voltage, V, and a resistance R

The chart above gives the LED current as a function of its voltage. So

With an input voltage of 3.3V, the following table gives the resistance values needed for each current value.

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Color | 10mA | | 30mA | | 50mA | |
| Red | 1.6V | 170Ω | 1.7 V | 53 Ω | 2.1 V | 24 Ω |
| Green | 1.9V | 140 Ω | 2.4 V | 30 Ω | 2.8 V | 10 Ω |
| Yellow | 2.2V | 110 Ω | 2.7 V | 20 Ω | 3.1 V | 4 Ω |
| Blue | 2.3V | 100 Ω | 2.8 V | 17 Ω | 3.2 V | 2 Ω |
| White | 2.6V | 70 Ω | 3.3 V | 0 Ω | 3.7 V | -- |

|  |  |
| --- | --- |
| Color | Resistance |
| Red | 160 Ω |
| Green | 130 Ω |
| Yellow | 110 Ω |
| Blue | 100 Ω |
| White | 68Ω |

In a pinch, could use 100 for all except for white