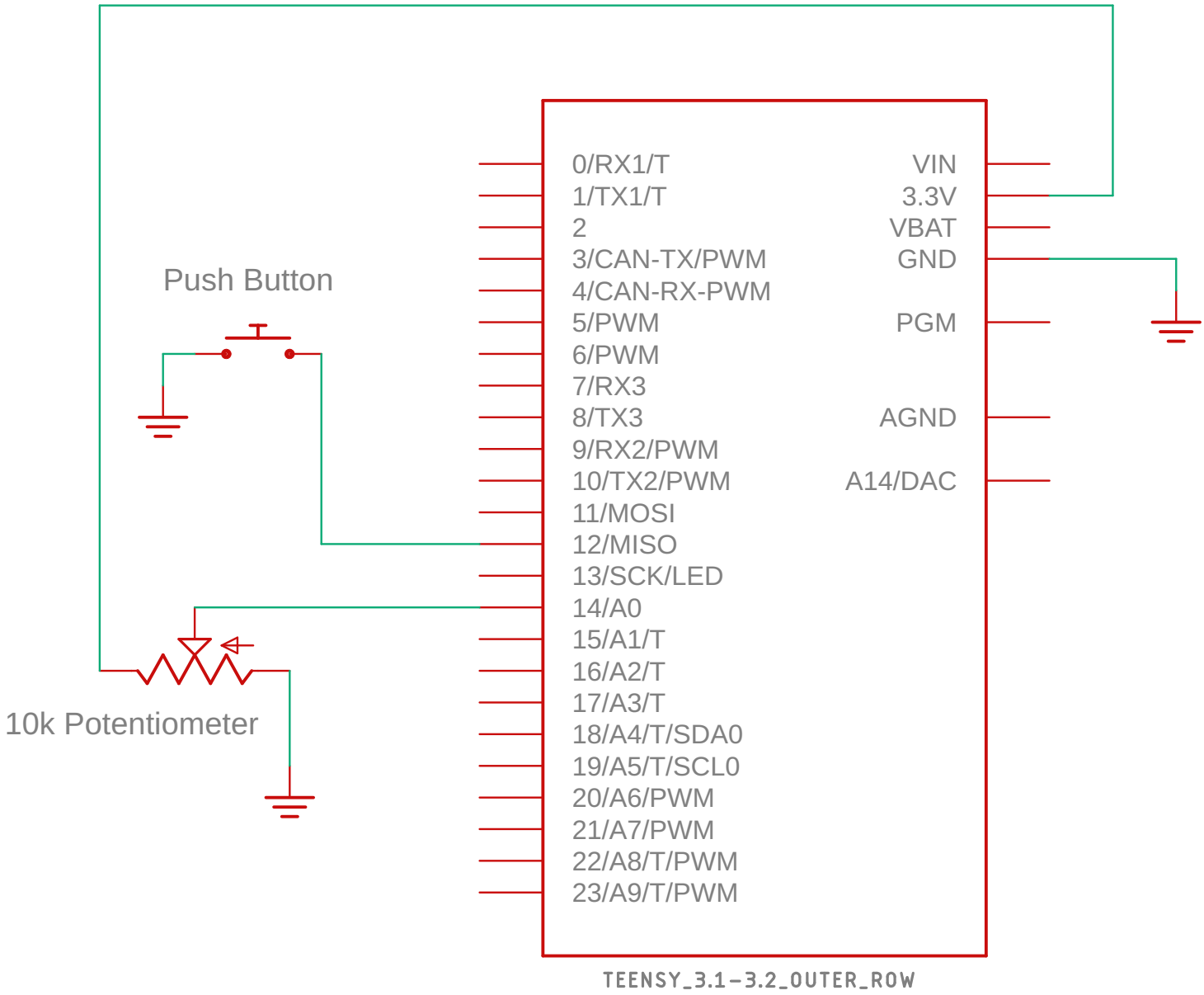
Flicker Fusion Schematic
By Chris Eley



HLMP-D150, HLMP-D155, HLMP-K150 and HLMP-K155

T-13/4 (5 mm), T-1 (3 mm), Low Current,
Double Heterojunction AlGaAs Red LED Lamps

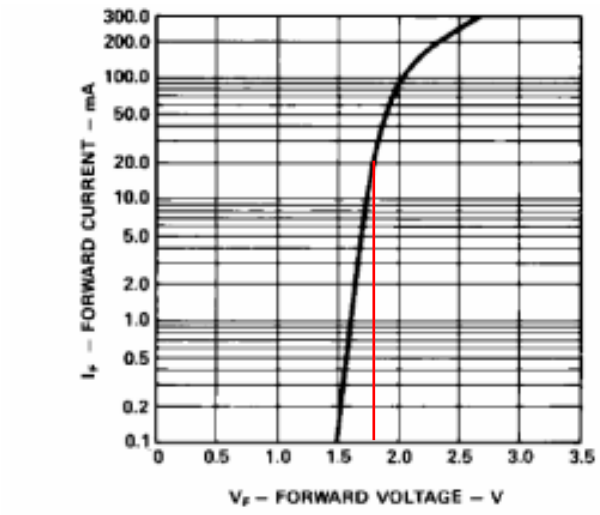


Figure 2. Forward current vs. forward voltage.

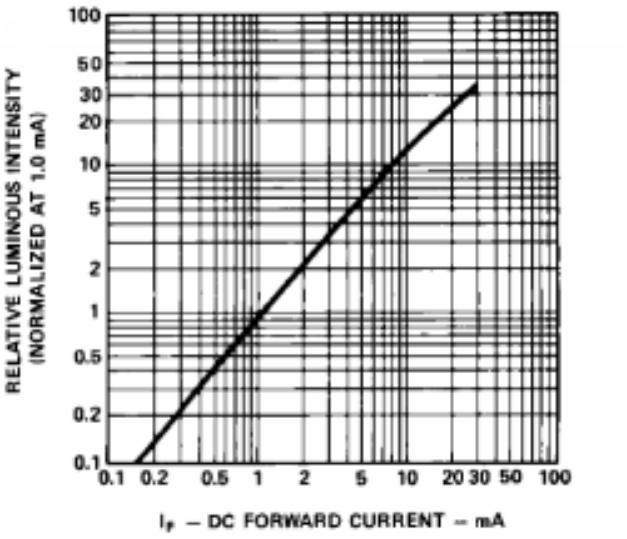


Figure 3. Relative luminous intensity vs. dc forward current.

Electrical/Optical Characteristics at $T_A = 25°C$

Symbol	Description	Min.	Typ.	Max.	Unit	Test Condition
V_F	Forward Voltage		1.6	1.8	V	$I_F = 1$ mA

To calculate the current limiting resistor value for an LED we 1st need to know the supply voltage (VCC), LED forward voltage and current when forward biased.
From the graphs above we can see that a maximum forward voltage of 1.8V will draw a forward current of 20mA. To obtain the resistor value we subtract the forward voltage from the VCC and insert into the following equation.

$$R = \frac{V}{I}$$

$$R = \frac{1.5V}{20mA}$$

$$R = 75\Omega$$

As 75Ω is not a standard resistor value we move to the next highest standard resistor size 82Ω.