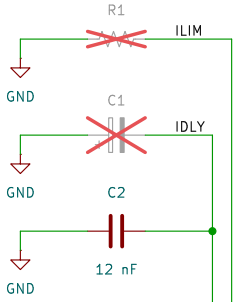
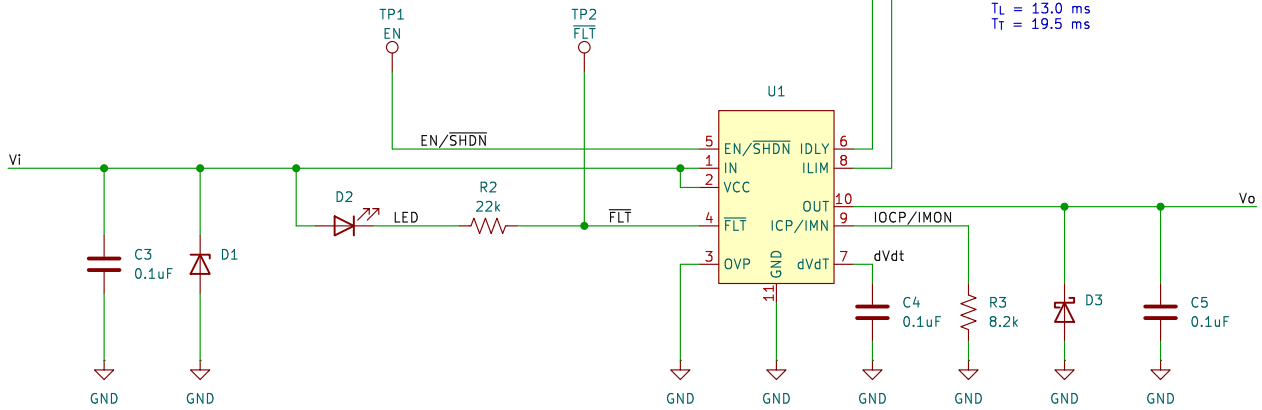
R1 is the current-programming resistor.
Current-limit constant (pin 8) is 9840 Volts
Current limit:
I_{LIM} = 9840 V / R1
Resistor selection:
R1 = 9840 V / I_{LIM}



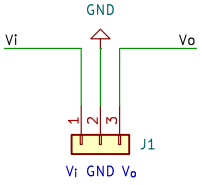
C1 is the (optional) delay capacitor for loads with high inrush current.
C1 sets the blanking time T_B before the eFuse starts to limit current,
and the current-limiting time T_L before the eFuse trips.
T_B = C1 * 541667 s/F
T_L = 2 * T_B = C1 * 1083333 s/F
The time to trip T_T is the sum of blanking time T_B and current limiting time T_L.
T_T = T_B + T_L = C1 * 1625000 s/F
Timing capacitor C1 selection:
C1 = T_B * (1/541667) F/s
= T_L * (1/1083333) F/s
= T_T * (1/1625000) F/s

There is an exception:
When C1 is absent, time to trip T_T is a slow 155 ms.
C2 adds the recommended capacitance (12nF) to avoid this exception.

Default timing:
T_B = 6.5 ms
T_L = 13.0 ms
T_T = 19.5 ms



R3 defines the Over-Current Protection (OCP) current limit I_{OCP}.
This is a separate mechanism that works at higher currents and faster than I_{LIM}
OCP constant is 16470 Volts.
I_{OCP} = 16470 V / R3
R3 = 16470 V / I_{OCP}
In this implementation,
I_{OCP} = 16470 V / R3 = 2.01 A



Front silkscreen text	TXT1 Vi	TXT2 GND	TXT3 Vo
Rear silkscreen text	TXT4 Vi	TXT5 GND	TXT6 Vo

Oops Paradox

Sheet: /
File: efuse-module.kicad_sch

Title: eFuse Module

Size: A4	Date: 2024-10-03	**Rev: 07**
KiCad E.D.A. 8.0.4		Id: 1/1