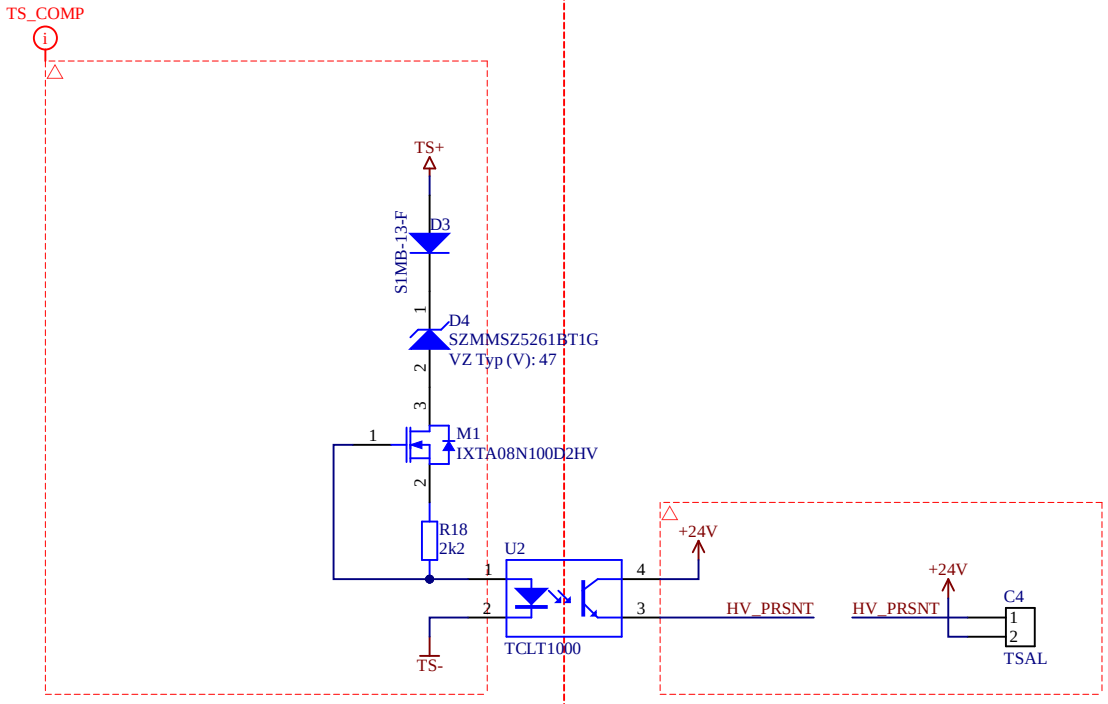

Calculations:

Intended current: I = 1mA

VGS(off) = 2V...4V
RSG = VGS(off)/I = 2k...4kOhm
Chosen R: 2k2 -> I = 0.9mA...1.8mA

A depletion-mode N-Channel-MOSFET acts as a current source in this configuration as the shunt-resistor causes a negative Gate voltage.
The Zener diode set's a minimum voltage of 47V (+Vbe+Vth) before a significant current can flow. After that, a constant current of 1mA flows through the opto-LED, presenting 24V at the optos' emitter.

Car Number: 22

Title: voltage-detection			
Projekt:	hv-distribution-board.PrjPcb	Revision: 1.1	
Author:	Leon Loeser	Baltic Racing Zur Schwedenschanze 15 Haus 18 18435 Stralsund	
Checked by:	Nico Bieberich		
Rules:	EV4.10.2		
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