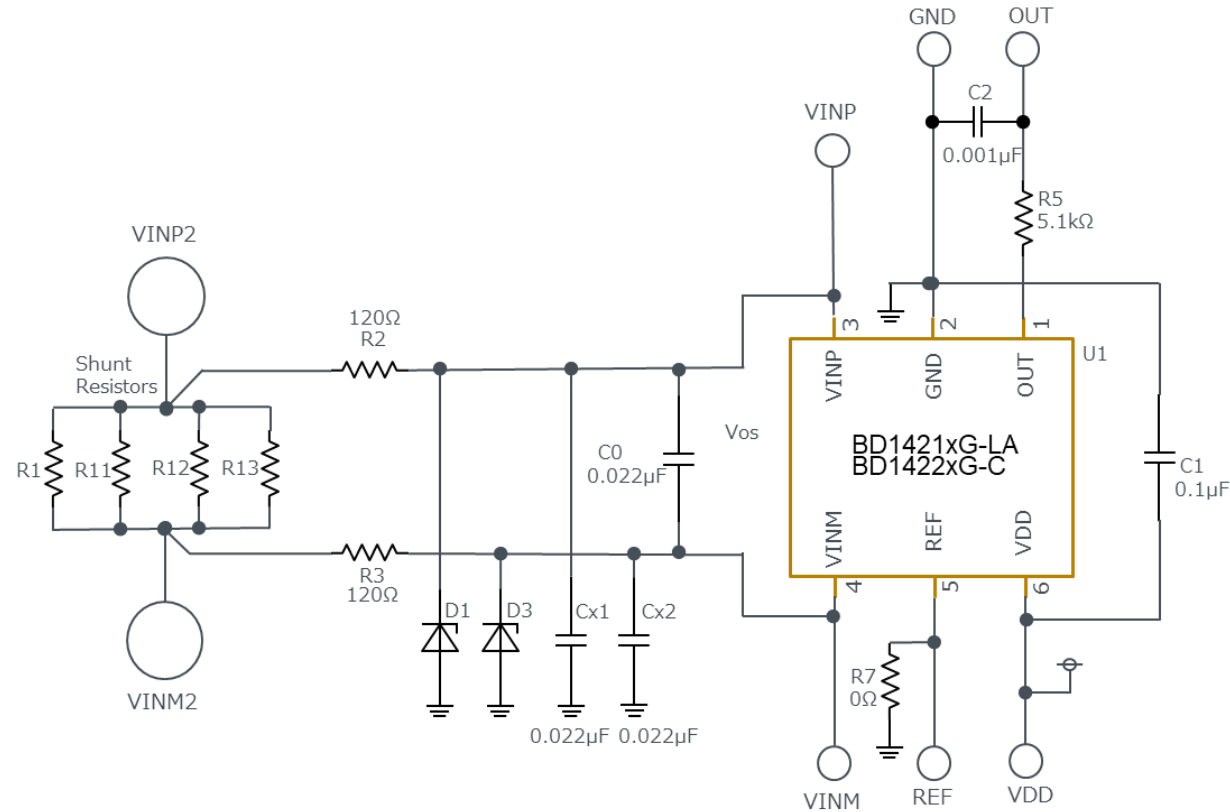


- Schematics REF68011 : 12V, 20A, Uni-direction
REF68012 : 24V, 30A, Uni-direction
- About BD1422xG-EVK-001 Board modifications

Schematic



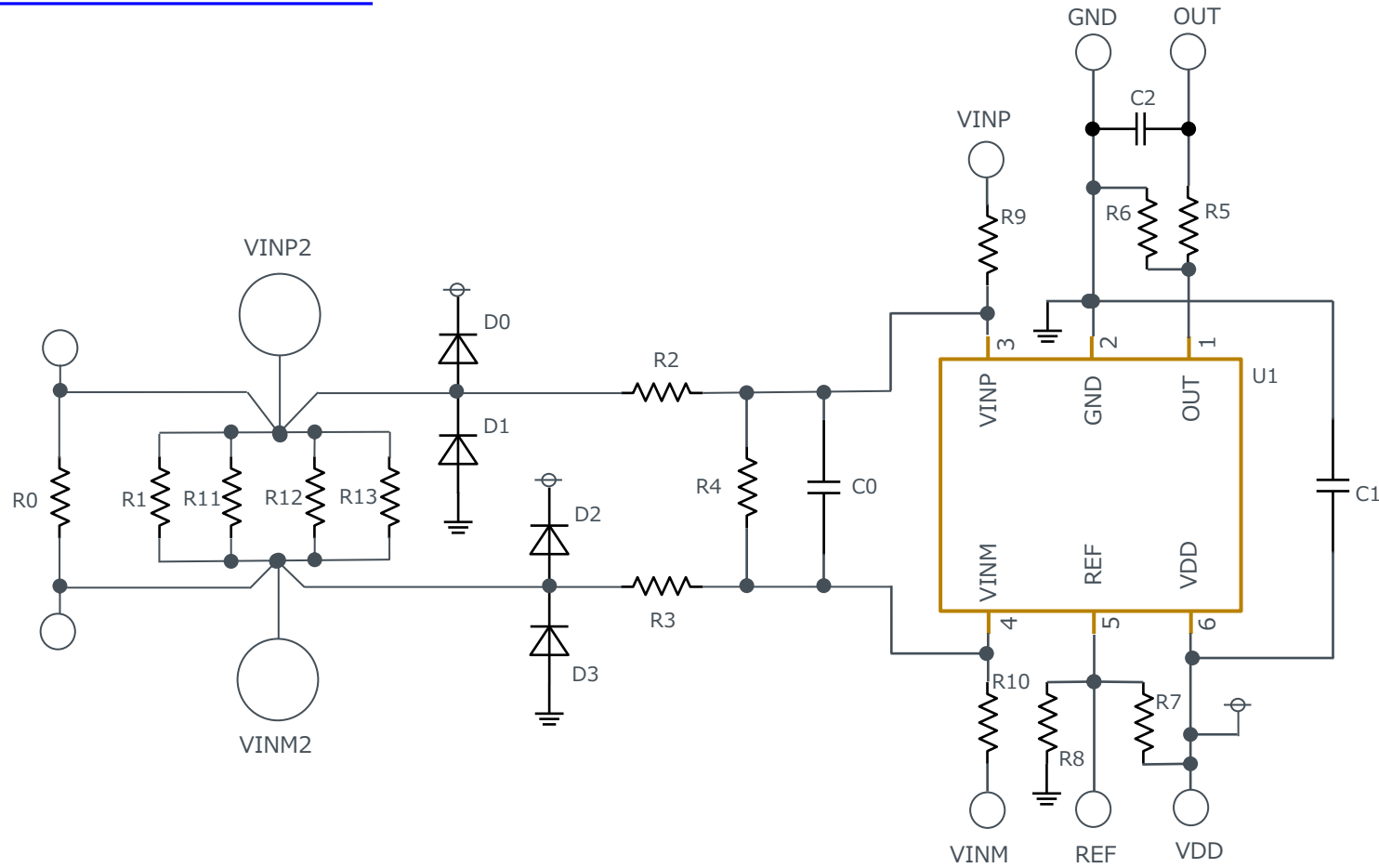
Major Components

Reference Design No.	CSA(Current sense amplifier)	Shunt Resistor	TVS Diode
REF68011(12V, 20A, Uni-dir.)	BD14211G-LA, 26V, 50V/V	PMR100HZPFV2L00 2mΩ	VS20VUA1VWM VS20VUA1VWMTF (for automotive)
REF68012 (24V, 30A, Uni-dir.)	BD14222G-C , 40V, 100V/V	PMR100HZP7FV1L00 1mΩ	VS30VUA1VWM VS30VUA1VWMTF(for automotive)

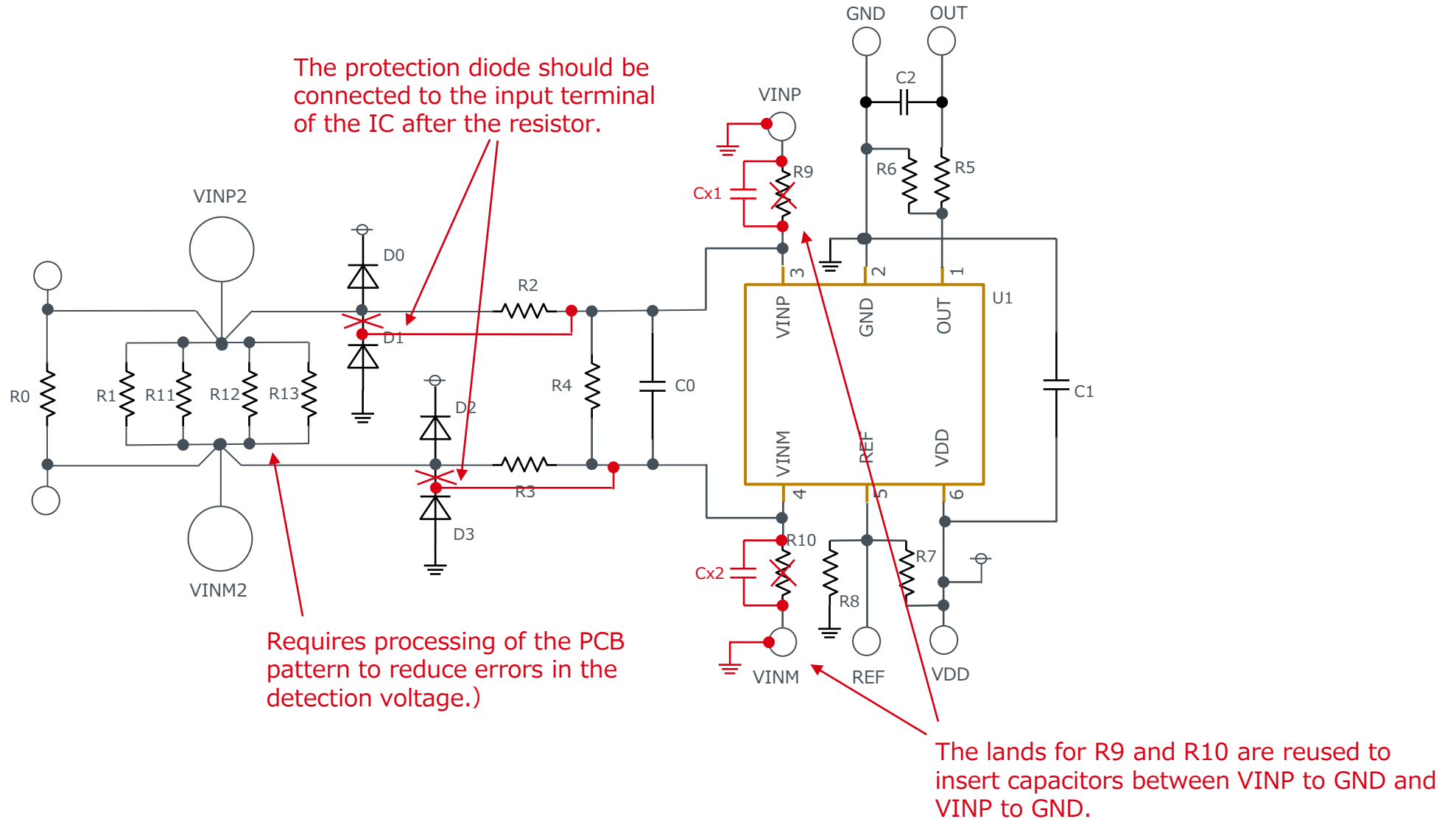
To evaluate the reference circuit on an actual device,
it is necessary to modify the EVK board (BD1422xG-EVK-001).

Schematic of EVK board(BD1422xG-EVK-001)

[Refer to EVK User Guide](#)



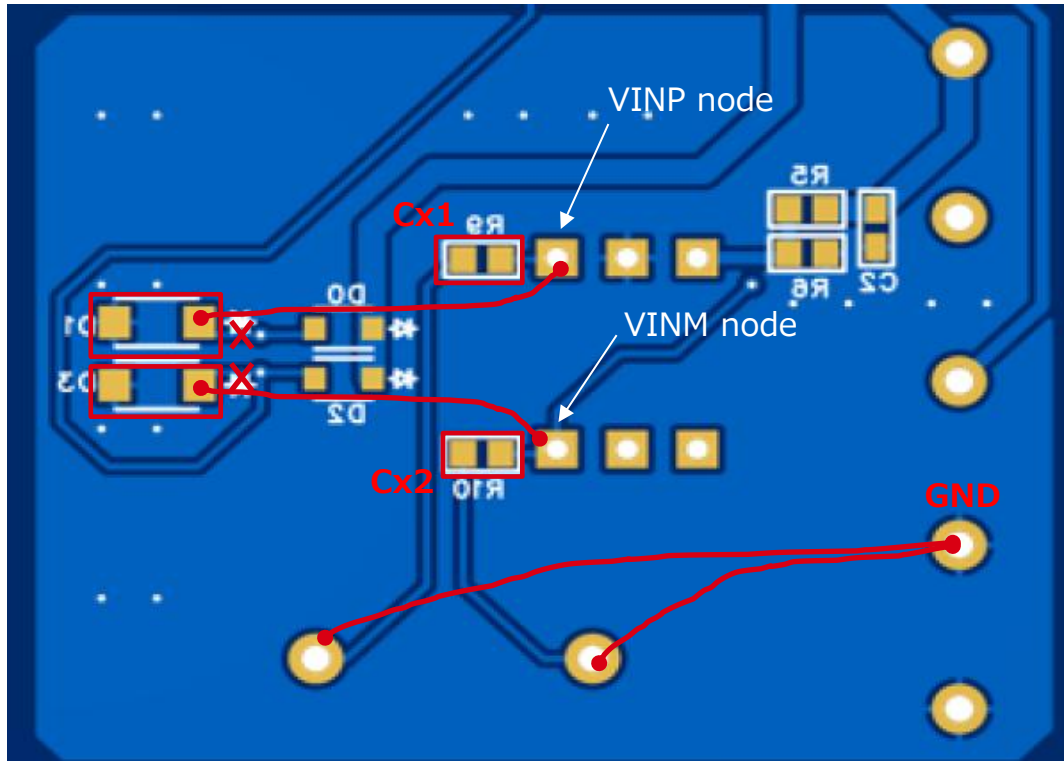
Modify the BD14211G-EVK-001 schematic



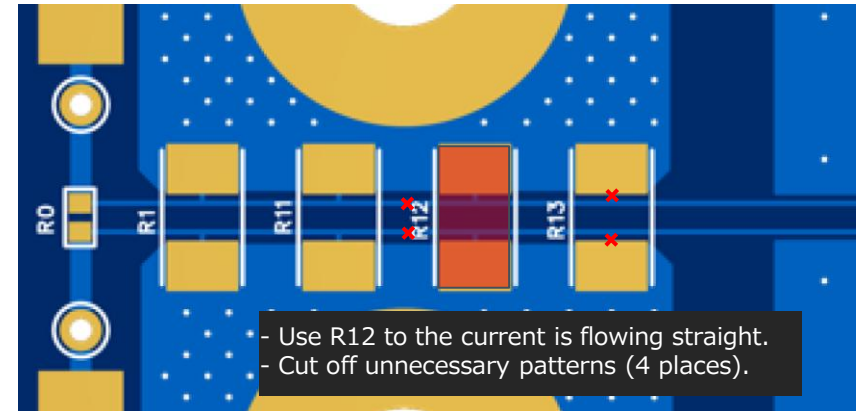
How to modify the board

1. Insert a capacitor between VINP/VINM and GND as an input filter. Install the capacitor in the R9 and R10 lands and connect the VINP/VINN terminals to GND.
2. Place a protective diode after the input filter resistor (on the IC side).
3. Depending on the number of shunt resistors connected, cut the sense line of the shunt resistor voltage. If no countermeasures are taken, an impedance network will be created, causing errors in the measured voltage.

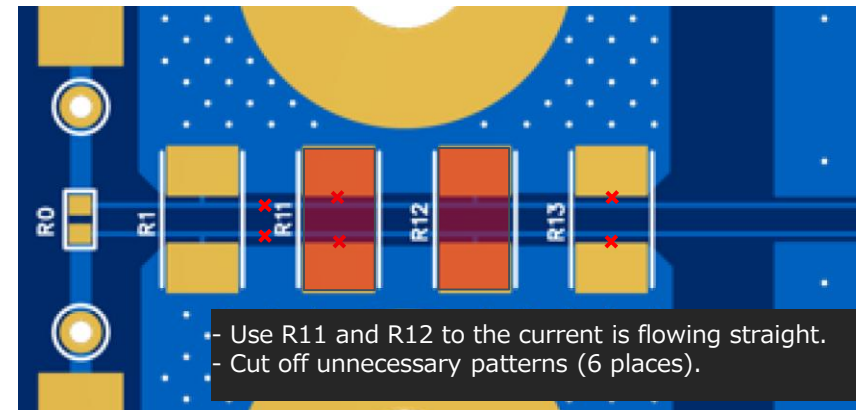
- ✗ : Cut the pattern
- : Connect with wiring



When using 1 shunt resistor

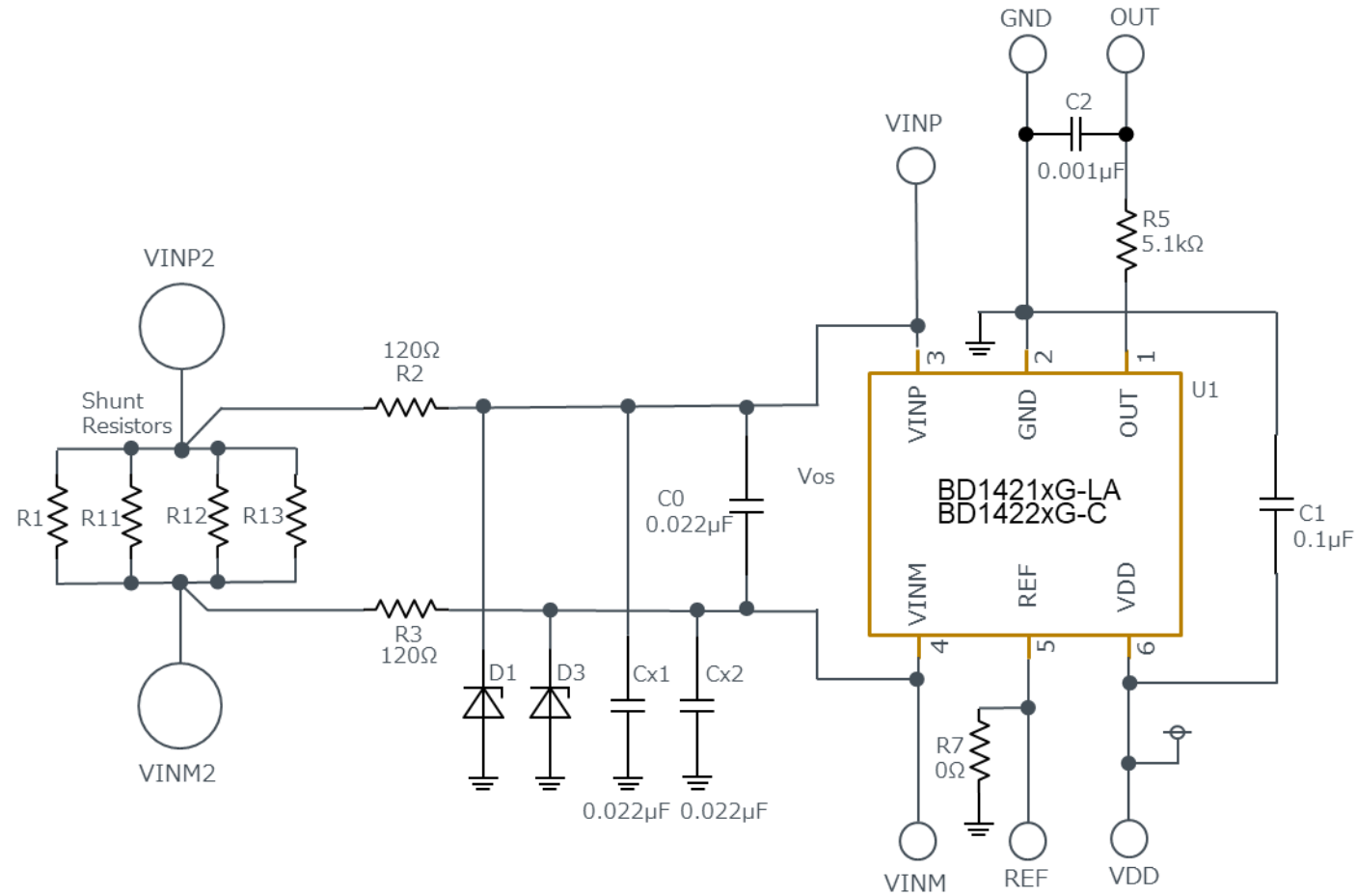


When using 2 shunt resistors



Schematic after modifying BD1422xG-EVK-001

Using this schematic as a base, the ICs and circuit constants selected for each reference design are designed.



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