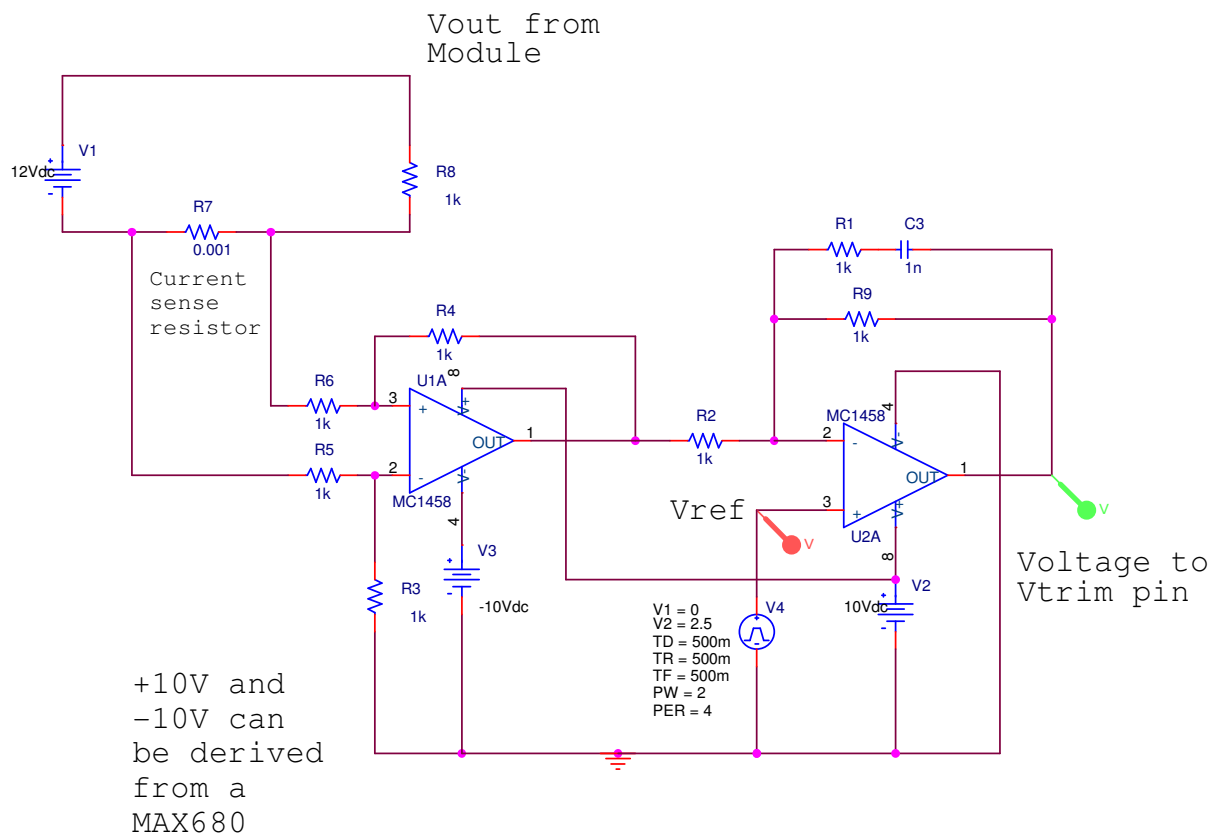

Using the Xgen as a constant current supply.

A constant current supply functions as a regulated current source. Even though the Xgen series is designed as a voltage mode controller, one of the key features can be invoked to allow it to be used as a constant current source.

The final result will be a voltage controlled current source, where the user can supply a reference voltage that will set the output current that flows to the load.

Objective: This document describes the external hardware required to use the Xgen series as a constant current supply:



- V1 simulates the output form the module
- R8 simulates the load on the PowerMod
- V4 simulates the adjustable Vref that can be used to set Vout, by changing the voltage on the Vtrim pin.

The output of the PowerMod should be trimmed to its max Vout by the trim pot initially. A series blocking diode should also be used to ensure that the module cannot be trimmed above its Over Voltage Protection limit. A large capacitor should also be placed to slow the loop of this circuit.

Theory of operation:

- A voltage representation of the current flowing in R7 is derived by the differential amplifier U1A. R7 is a current sense resistor.
- U2A is then used to compare this to a reference voltage.
- This reference will be a signal coming from the system, and will be used to control the required current.