

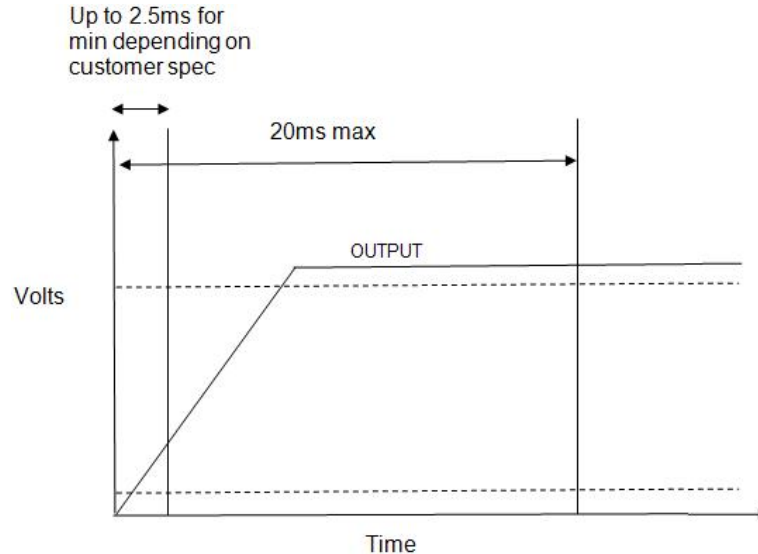


Feedback soft finish

August.2017.Romeo

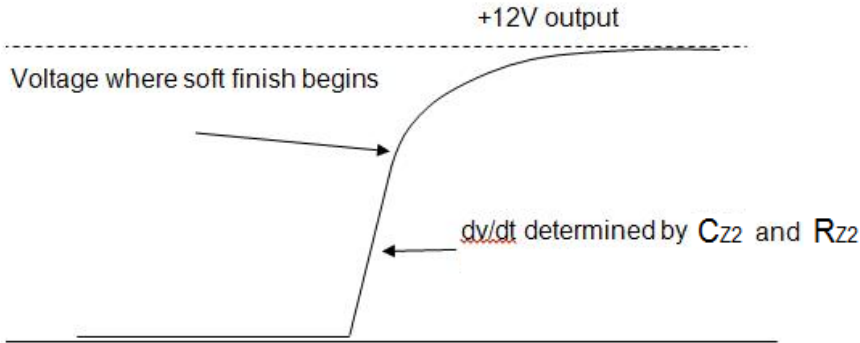
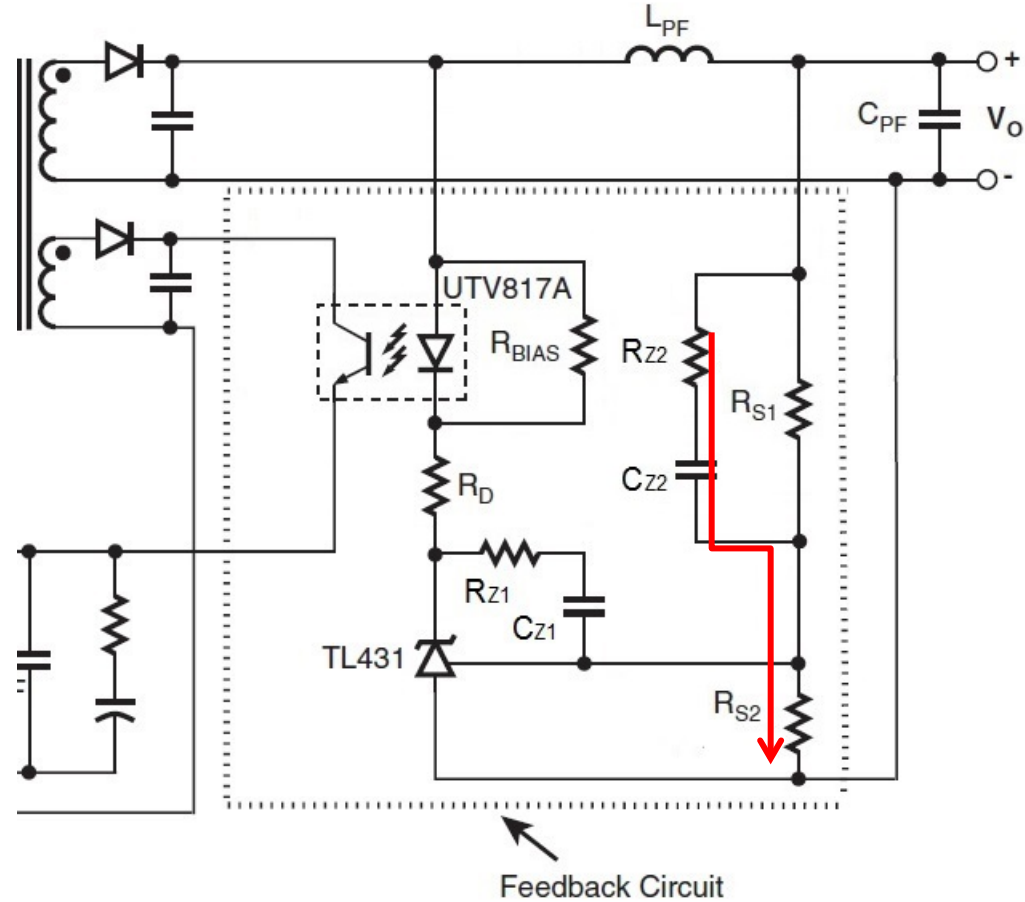
Soft Start Specification

- There is a general requirement that outputs to rise in a uniform and monotonic manner and any overshoot to be limited to the specified regulation limits. The maximum time for the output to rise from 10% to 90% of nominal regulation is generally restricted to 20ms. The minimum time varies from customer to customer.



Feedback circuits

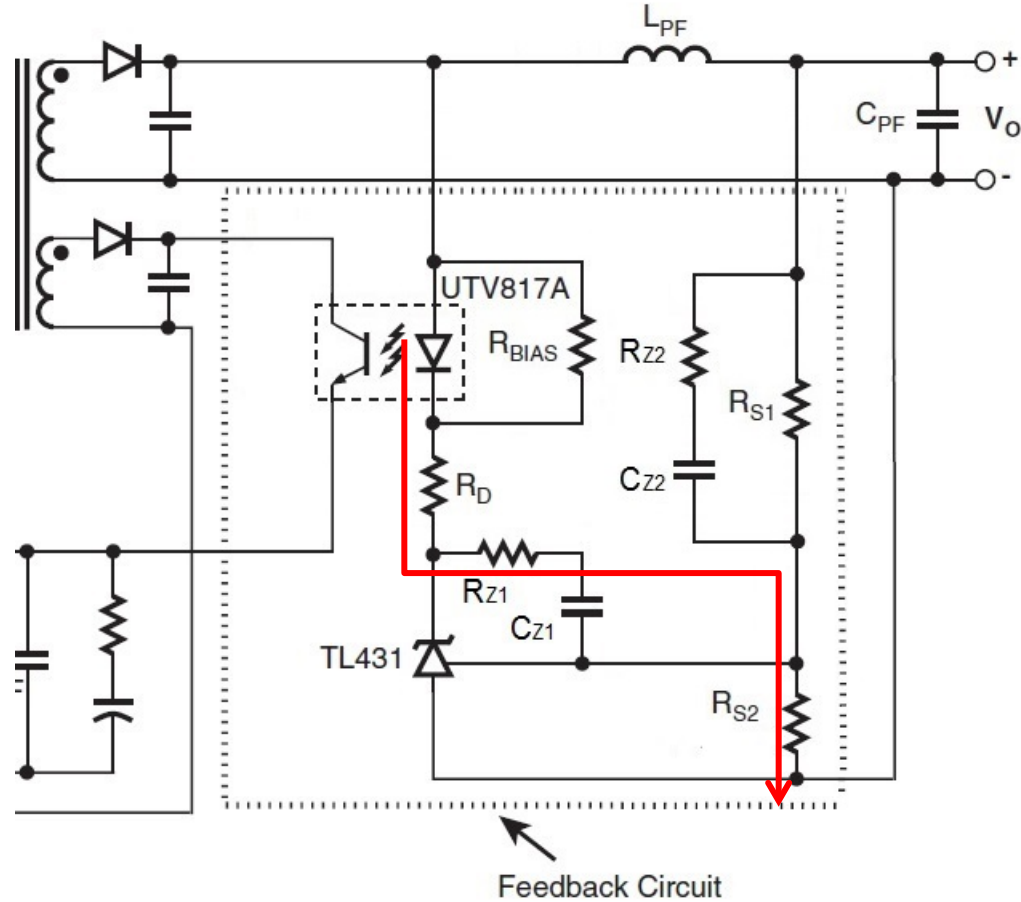
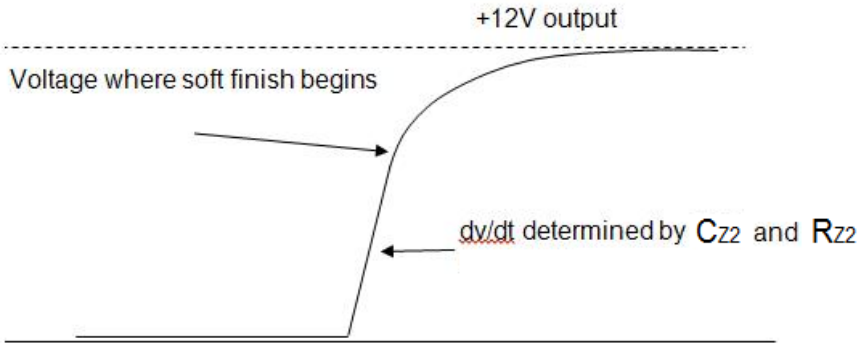
At initial turn on, rise time of the outputs will be defined by C_{Z2} and R_{Z2} presenting the rising output signal to the reference pin of the TL431.



Feedback circuits

When the +12V output reaches approximately +6V, CZ1 will couple the output rising signal through RD and RZ1 effectively generating the soft finish function which causes the output to rise more slowly.

$$V_{SoftFinish} = \frac{2.5 \times (RD + RZ1 + RS2)}{RS2} + 1 \sim 6.2V$$



Test result:

