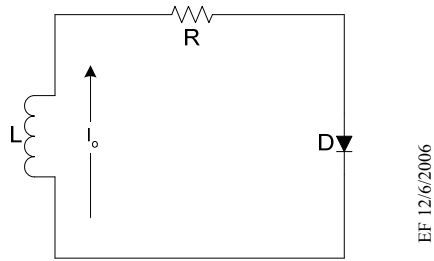


Recirculating diode equation

Circuit:



Differential equation (first order; homogeneous; non-linear):

$$\frac{di}{dt} + \left[\frac{R}{L} \times i - \frac{n \times V_T}{L} \times \ln \left(\frac{i}{I_s} + 1 \right) \right] = 0$$