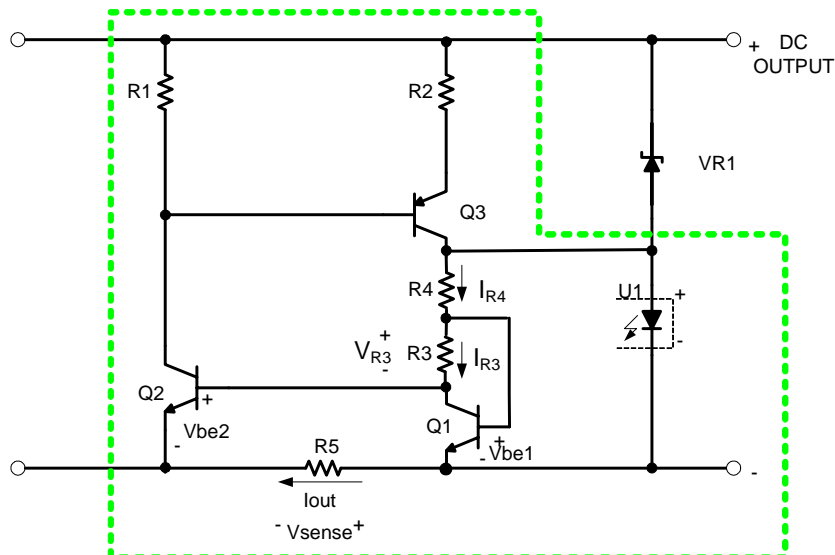


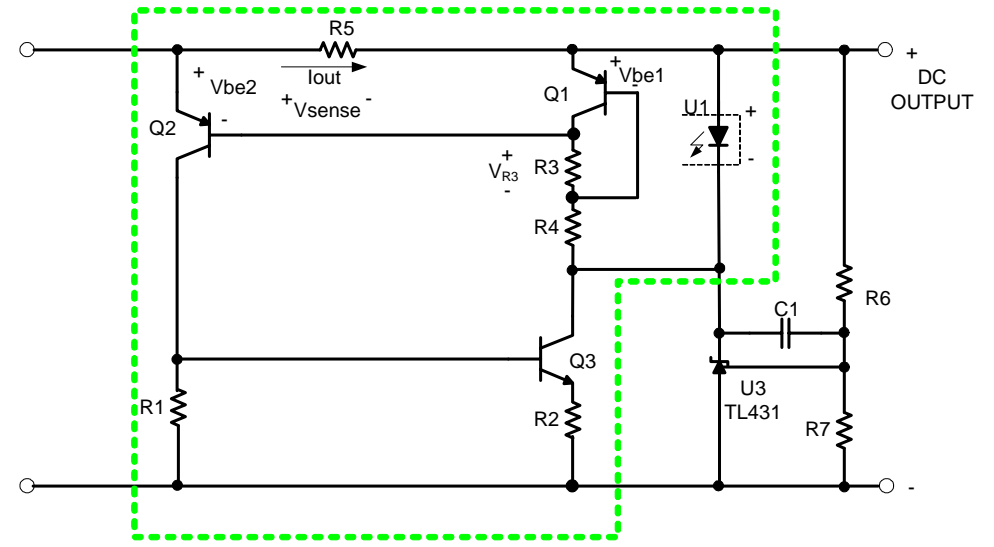
# LowDrop-CC™ Low Voltage Drop CC Circuit

- Uses forward drop of the opto LED (U1 below) to bias current sense circuit
  - Provides stable bias over a wide range of output DC voltages
- Very stable over temperature since Vbe1 and Vbe2 cancel
 
$$V_{sense} + V_{be1} = V_{be2} + V_{R3}$$

$$V_{be1} \approx V_{be2}, \therefore V_{sense} = V_{R3}$$
- Sense threshold ( $V_{R3}$ ) can be adjusted by choice of R3
  - If  $R3=R4$ ,  $V_{R3}$  is ~300mV (difference in U1 forward voltage and Vbe1)
  - Typically saves \$0.1 - traditional low drop CC circuits require a dual op-amp and auxiliary bias supply created from secondary transformer winding



Low-side current sense with zener CV



High-side current sense with TL431 CV