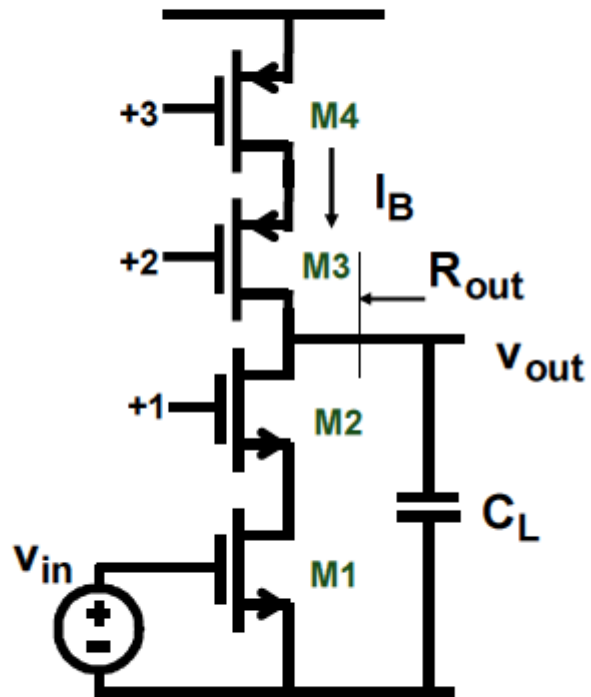


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## Telescopic Cascode

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$$A_v = g_{m1} R_{out}$$

$$R_{out} = \frac{1}{2} r_{DS1} g_{m2} r_{DS2}$$

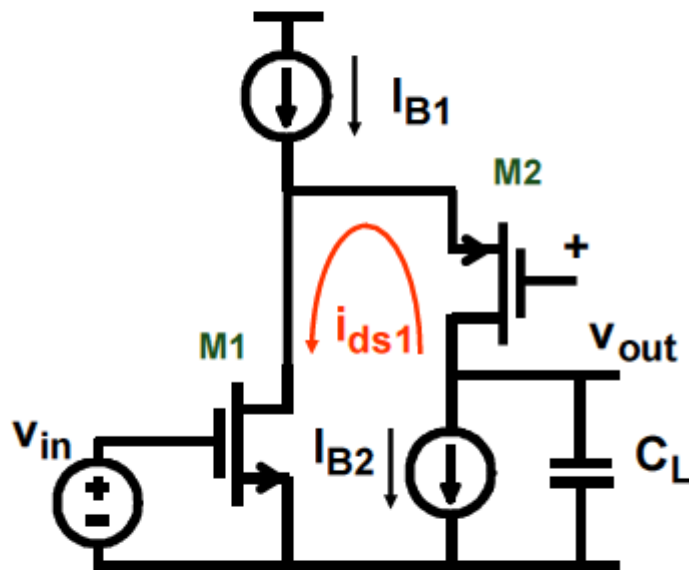
$$BW = \frac{1}{2\pi R_{out} C_L}$$

$$GBW = \frac{g_{m1}}{2\pi C_L}$$

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## Folded Cascode

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$$I_{DS1} = I_{B1} - I_{B2} \approx I_{B1} / 2$$

$$A_v = g_{m1} R_{out}$$

$$R_{out} = r_{DS1} g_{m2} r_{DS2}$$

$$BW = \frac{1}{2\pi R_{out} C_L}$$

$$GBW = \frac{g_{m1}}{2\pi C_L}$$