

for $I_D = 10^{-3} = 1 \text{ mA}$

P.8
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$$V_G = V_{th} + \sqrt{\frac{10^{-3}}{0.4 \times 10^{-5}}}$$

$\frac{1}{2}$

$$= \frac{1}{2} + \sqrt{\frac{1}{4} \times \frac{10^{-3}}{10^{-6}}}$$

$$= \frac{1}{2} + \frac{1}{2} \sqrt{10^3} = \frac{1}{2} + \frac{1}{2} \times 3.3 \dots$$

$$= 1.7 \text{ V}$$

$\therefore$ can't get with $V_{dd} = 5$

and these transistors

can change transistors or raise V_{dd} (above about 20 V)