

Using the MOSFET equation for $v_{DS} \ll v_{OV}$ fill in the following table.
 For which letter (a-i) does this assumption ($v_{DS} \ll v_{OV}$) not hold.

Constants:

$$\epsilon_{ox} = 3.45 \times 10^{-11} \text{ [F/m]}$$

$$\mu_n = 1350 \text{ [cm}^2\text{/V}\cdot\text{s]}$$

	t_{ox} [nm]	C_{ox} [F/m ²]	W [μm]	L [μm]	k_n' [mA/V ²]	k_n [mA/V ²]	V_t [V]	v_{GS} [V]	v_{OV} [V]	v_{DS} [V]	r_{DS} [Ω]	i_D [mA]
a.	2.1		5.0	0.10			1.0		1.0	0.01		
b.		0.0080	6.6			13.0		5.0	4.5	0.20		
c.		0.0056		0.24		10.0	1.2		-0.2	0.05		
d.			30.0		0.58	17.5	0.3		2.4			9.2
e.				0.07	3.58		0.7	1.6		0.31		78.5
f.		0.0108	10.5	0.75				2.8	2.5	0.55		
g.		0.0059	7.5	0.20				0.2	-0.6	3.22		
h.	7.9		20.0			14.7	2.0		0.5			4.1
i.		0.0036		0.04		24.3		6.5			6.8	279.7

t_{ox} [nm]	C_{ox} [F/m ²]	W [μ m]	L [μ m]	k_n' [mA/V ²]	k_n [mA/V ²]	V_t [V]	v_{GS} [V]	v_{OV} [V]	v_{DS} [V]	r_{DS} [Ω]	i_D [mA]
2.1	0.0164	5.0	0.10	2.22	110.9	1.0	2.0	1.0	0.01	9.0	1.11
4.3	0.0080	6.6	0.55	1.08	13.0	0.5	5.0	4.5	0.20	17.1	11.7
6.2	0.0056	3.2	0.24	0.75	10.0	1.2	1.0	-0.2	0.05	open	0
8.0	0.0043	30.0	1.00	0.58	17.5	0.3	2.7	2.4	0.22	23.9	9.2
1.3	0.0265	5.5	0.07	3.58	281.5	0.7	1.6	0.9	0.31	3.94	78.5
3.2	0.0108	10.5	0.75	1.46	20.4	0.3	2.8	2.5	0.55	19.6	28.0
5.8	0.0059	7.5	0.20	0.80	30.1	0.8	0.2	-0.6	3.22	open	0
7.9	0.0044	20.0	0.80	0.59	14.7	2.0	2.5	0.5	0.55	135.7	4.1
9.6	0.0036	2.0	0.04	0.49	24.3	0.4	6.5	6.1	1.89	6.8	279.7