

今天一樣兩組為一個單位，
且這此的實驗不用跑pspice

E2.0 Characteristic Curves

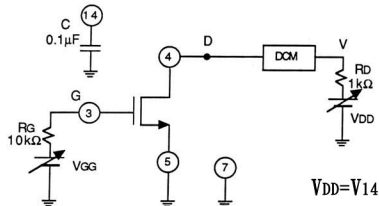


Figure 8.5 A Circuit for Measuring Device Characteristics

E2.1 The Output Characteristic

- Assemble the circuit in Fig. 8.5,
- Set $V_{GG} = 0V$ to make $V_G = 0V$ and set $V_{DD} = ?$ to make $V_D = 10V$.
Raise $V_{GG} = ?$ until drain current i_D is about $10\mu A$. Measure v_G as V_t .
- Adjust V_{DD} and V_{GG} to control v_{GS} and v_{DS} to get i_D to finish follow table.
Then plot i_D - v_{DS} characteristic figure.

v_{DS}	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5
$v_{GS}=1$										
v_{DS}	0.5	1	1.5	2	2.5	2.75	3	4	5	6
$v_{GS}=2$										
v_{DS}	0.125	0.25	0.375	0.5	0.625	0.75	1	2	4	6
$v_{GS}=4$										

E2.3 Control Characteristic

- Similar as above, adjust V_{DD} and V_{GG} to control v_{GS} and v_{DS} to get i_D to finish follow table.
Then plot i_D - v_{GS} characteristic figure.

v_{GS}	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5
$v_{DS}=5$										
$v_{DS}=10$										

* E2.2 Output Resistance

- With the setup as in Exp. 2.1 above, and with $v_{GS} = v_{DS} = 5V$, measure i_D .
- Now raise v_{DS} to $10V$, noting the increase in i_D .
Then use current equation to calculate λ , V_A , r_o