

EXERCISE 11

Exercise 1: AMOLED Pixel Driver Circuits

a) A 2-transistors circuit is given in fig. 1.

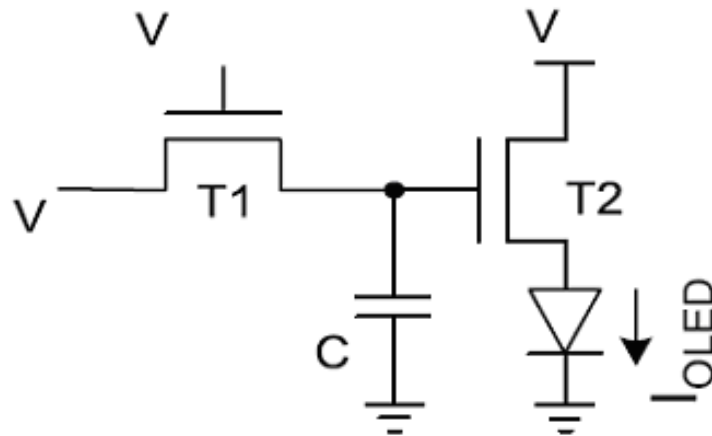


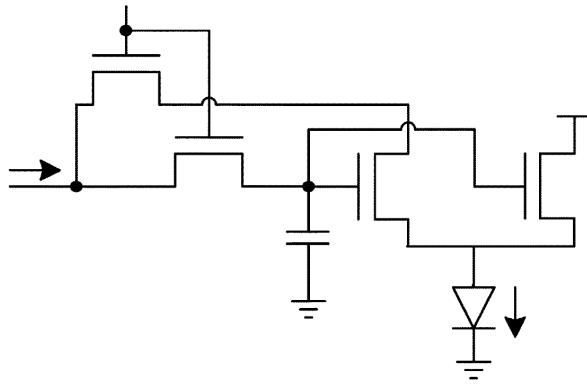
Figure 1: 2-transistors circuit.

Identify the transistors, capacitors and driving lines in the picture below.

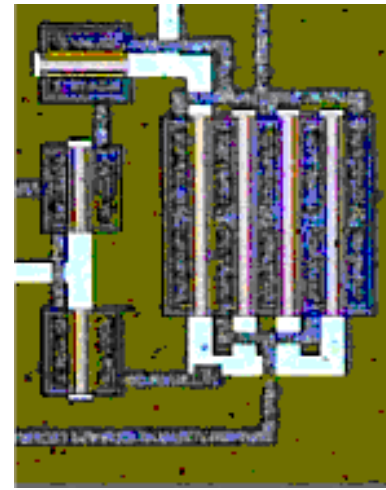


Figure 2: AMOLED pixel circuit.

- b) Identify the driving lines, the transistors and input/output lines in the following 4-transistors circuit and the corresponding pixel circuit (test design).



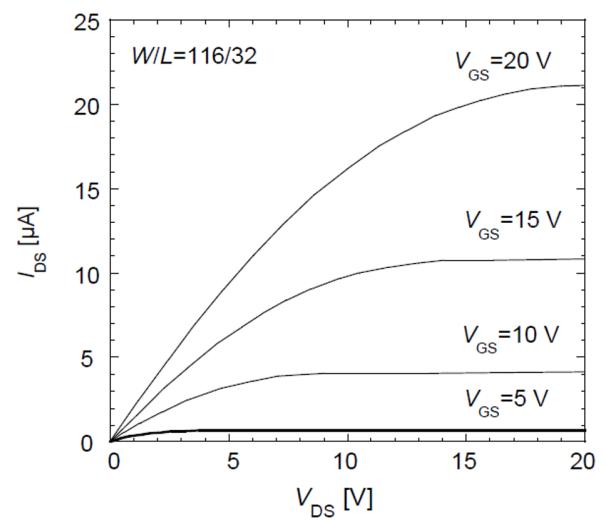
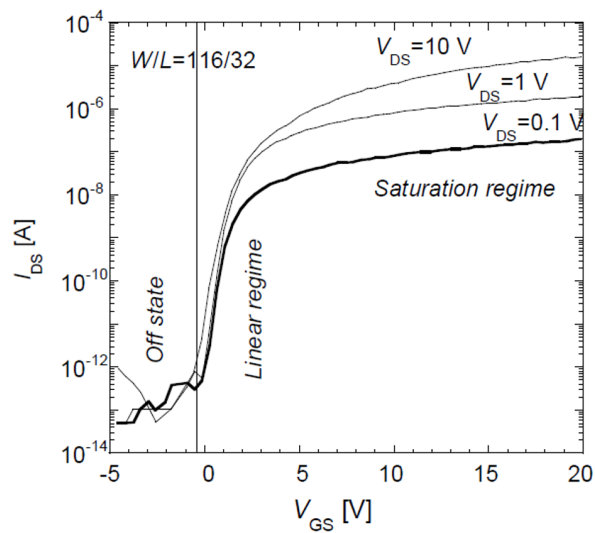
(a)



(b)

Figure 3

Exercise 2: Given are the following a-Si:H TFT characteristics:



- a) Estimate the field effect mobility.
- b) Assuming a uniform distribution along the channel of the effective mobility, estimate the ratio of free to trapped charge.
- c) Compare this ratio to the case of an illuminated layer of a-Si:H.