

Figure 3-1 Schematic cross sectional view of the simple FET device



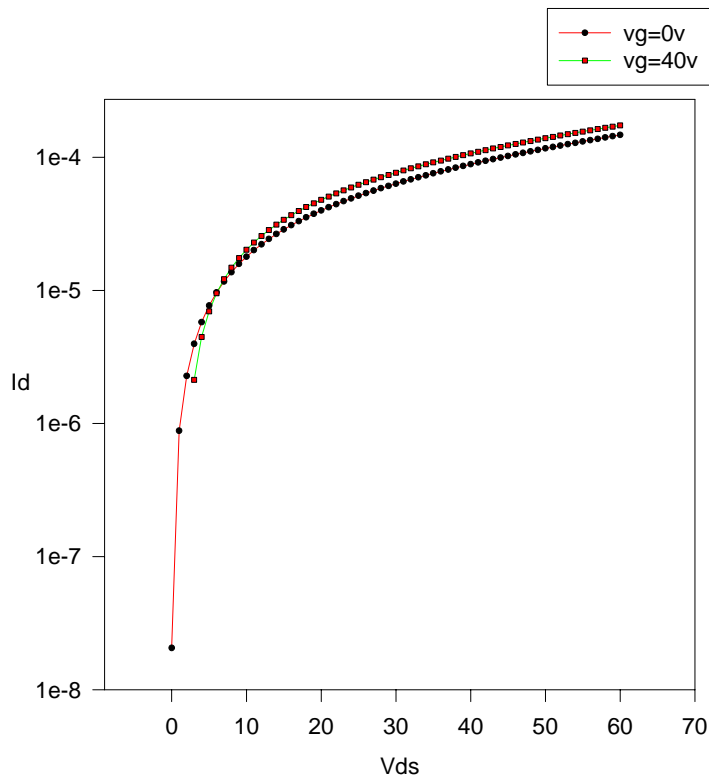
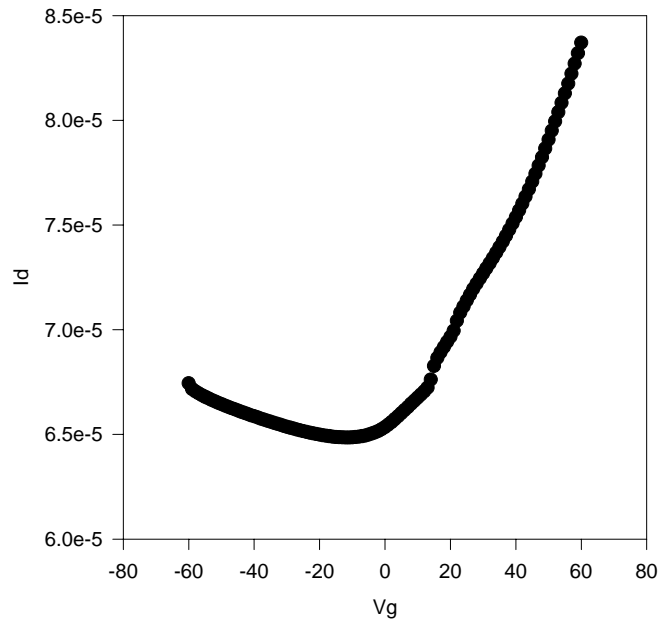


Figure 3-2 .The transfer characteristic and the output characteristic of the amorphous TFT with SiH₄/H₂ ration is 1/10.

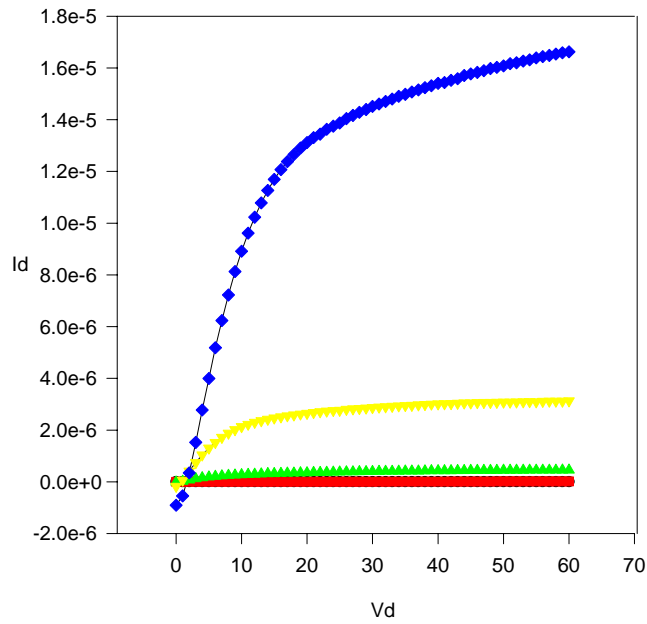
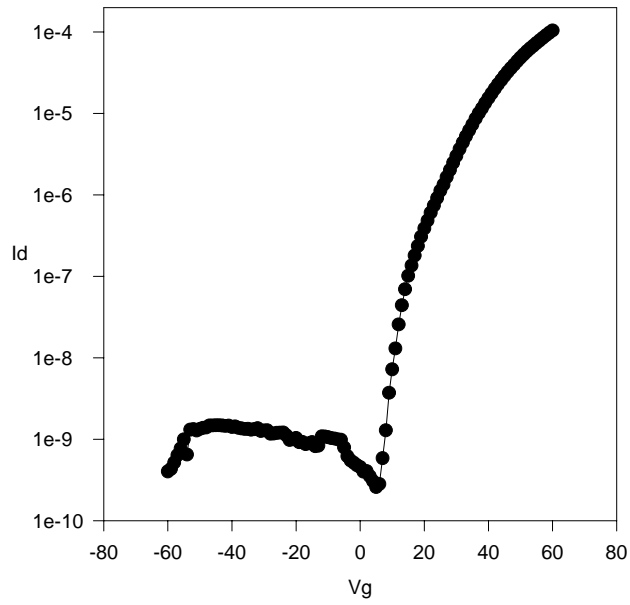


Figure 3-2 .The transfer characteristic and the output characteristic of the amorphous TFT with SiH₄/H₂ ration is 1/49.

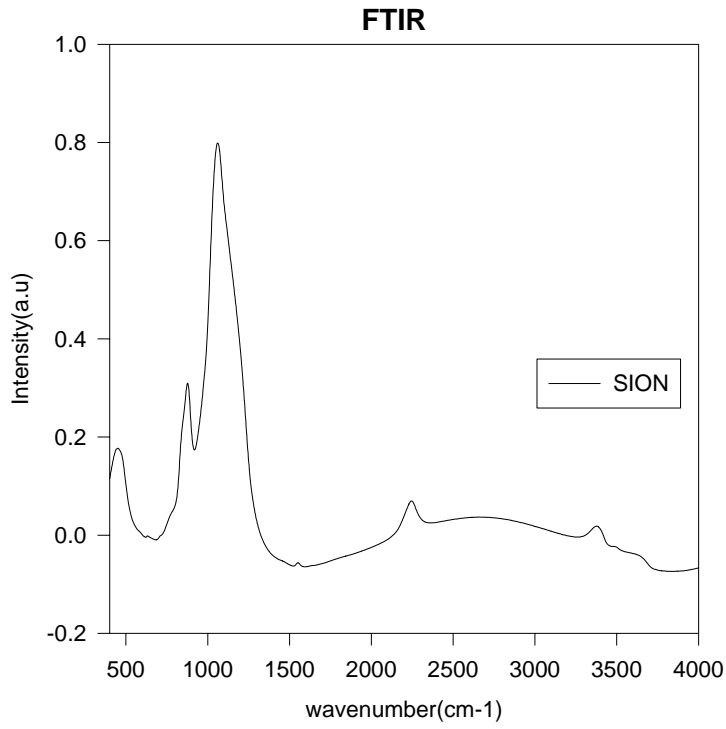


Figure 3-4 FTIR absorption spectra for SiON film

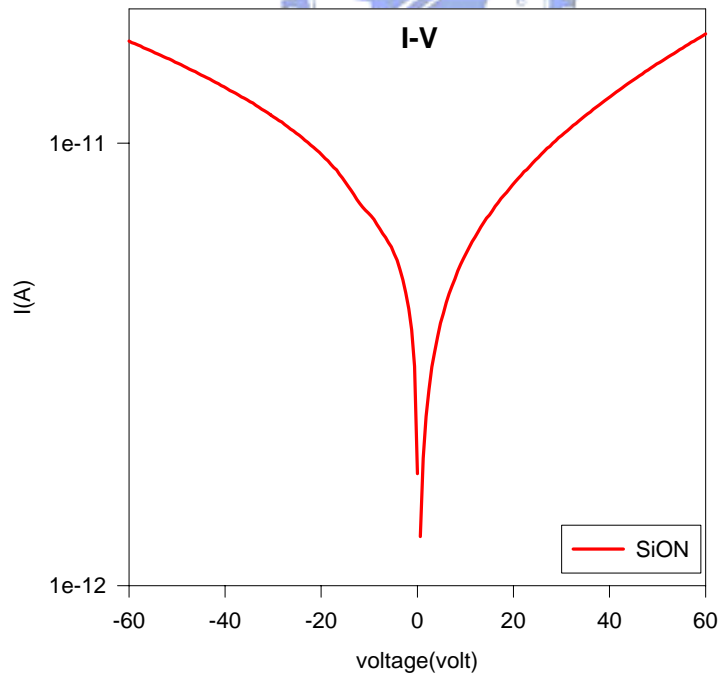


Figure 3-5 I-V measurement for the SiON film

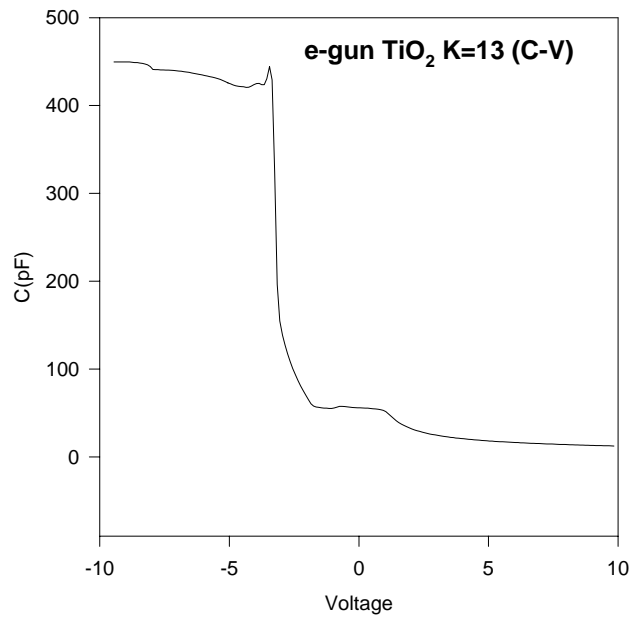


Figure 3-6 C-V measurement for TiO_2 film

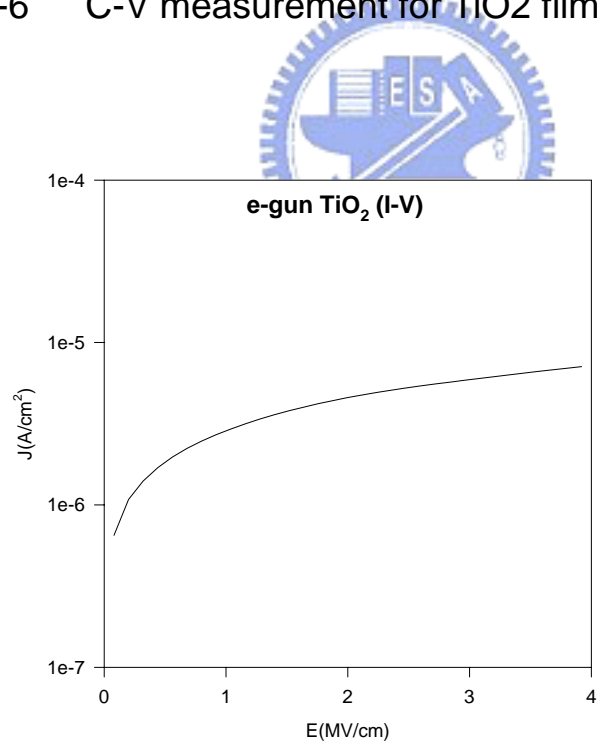


Figure 3-7 I-V measurement for TiO_2 film

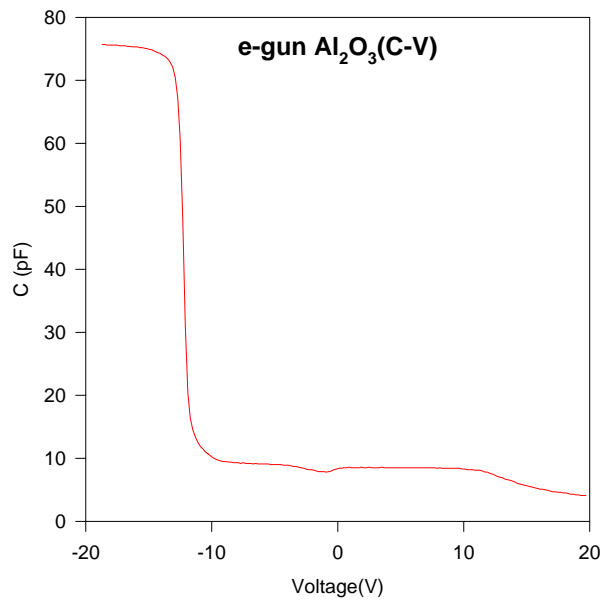


Figure 3-8 C-V measurement for Al₂O₃ film

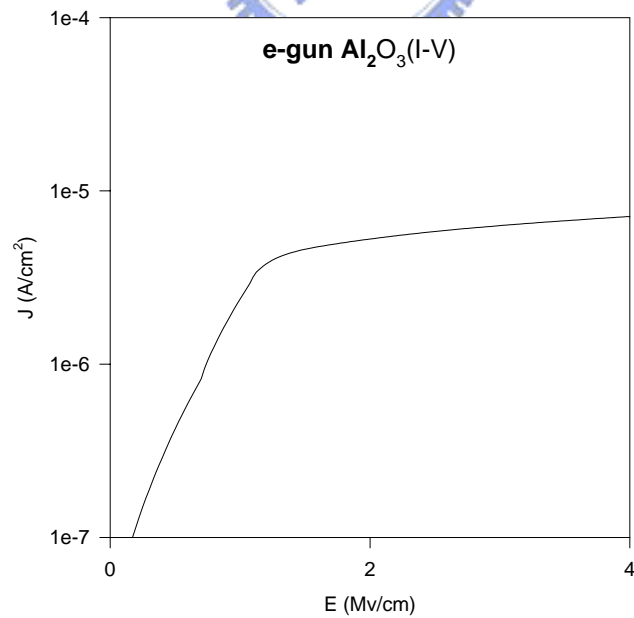


Figure 3-9 I-V measurement for Al₂O₃ film

~ Device Structure ~

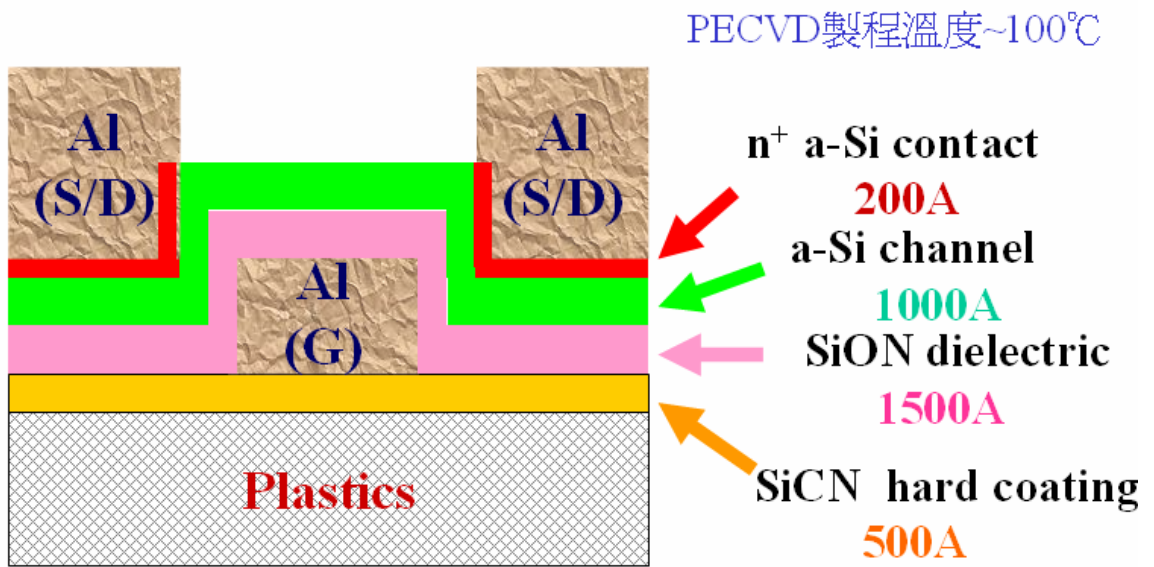
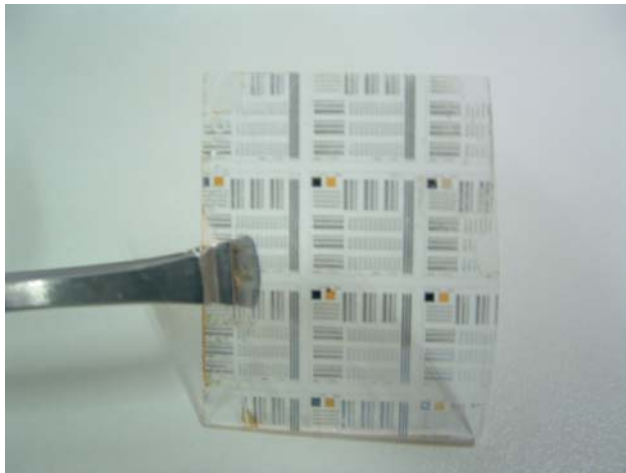
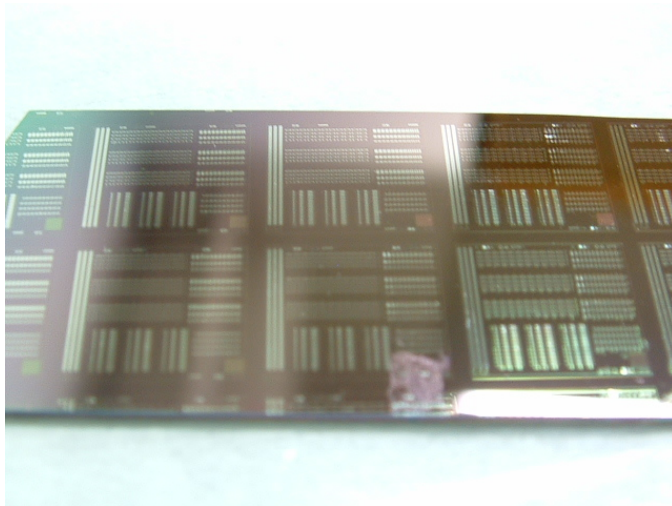


Figure 3-10 Schematic cross sectional view of devices with conventional bottom gate structure



glass substrate



silicon substrate



plastic substrate

Figure 3-11 TFT device was fabricated on the different kinds of substrate

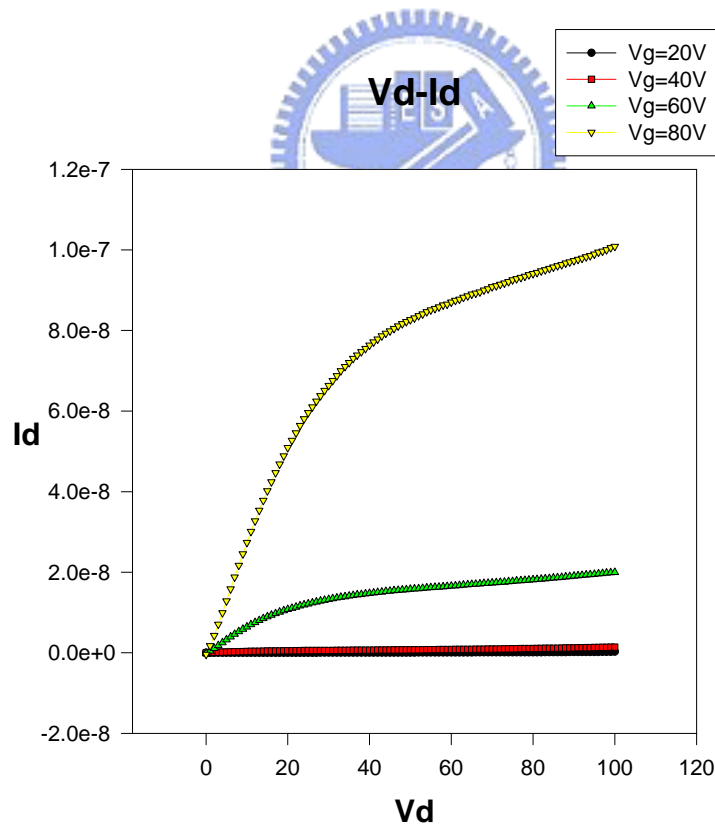
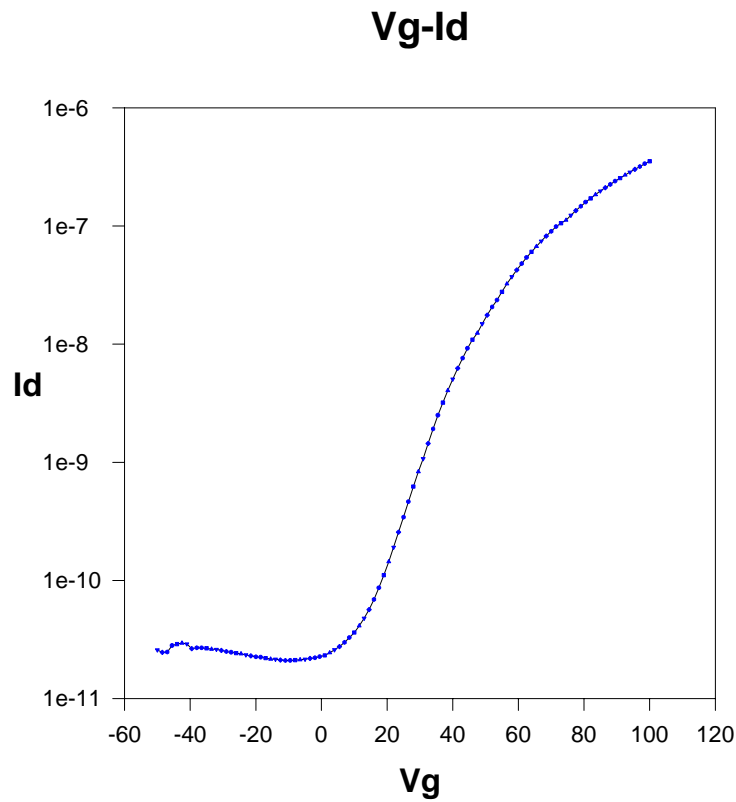


Figure 3-12 depicts the output (I_D - V_D) characteristics and the transfer (I_D - V_G) characteristics of the TFT which was fabricated on the silicon substrate ($W/L=300 \mu\text{m}/20 \mu\text{m}$)

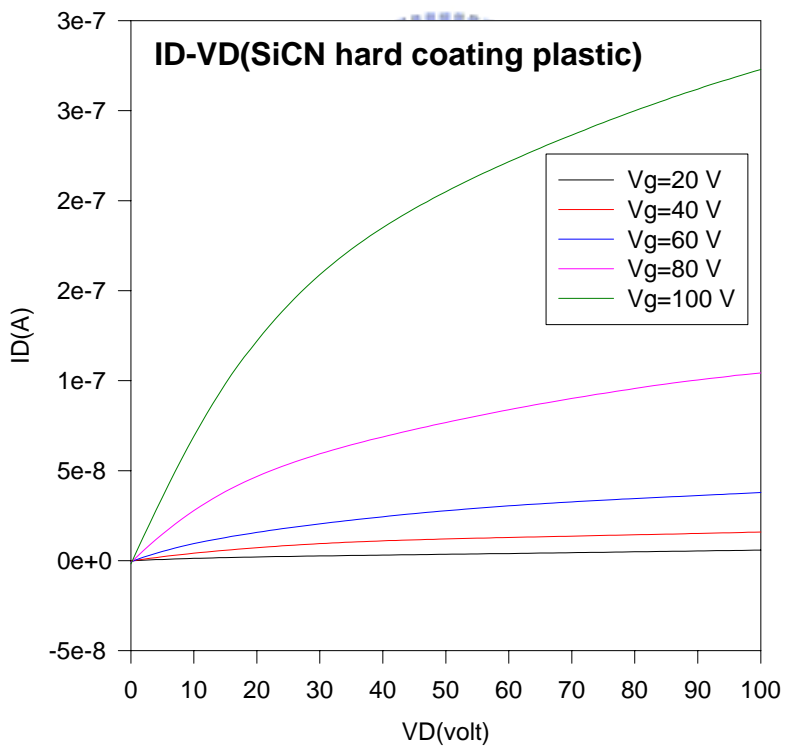
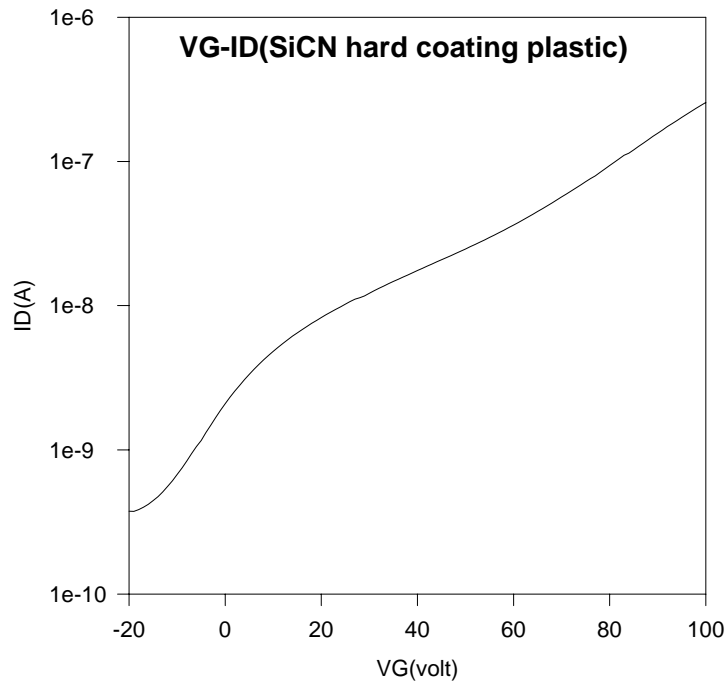


Figure 3-13 I-V characteristics of TFT devices with SiON gate dielectric on the SiCN coated plastic substrate.

(W/L=50 μ m/50 μ m)

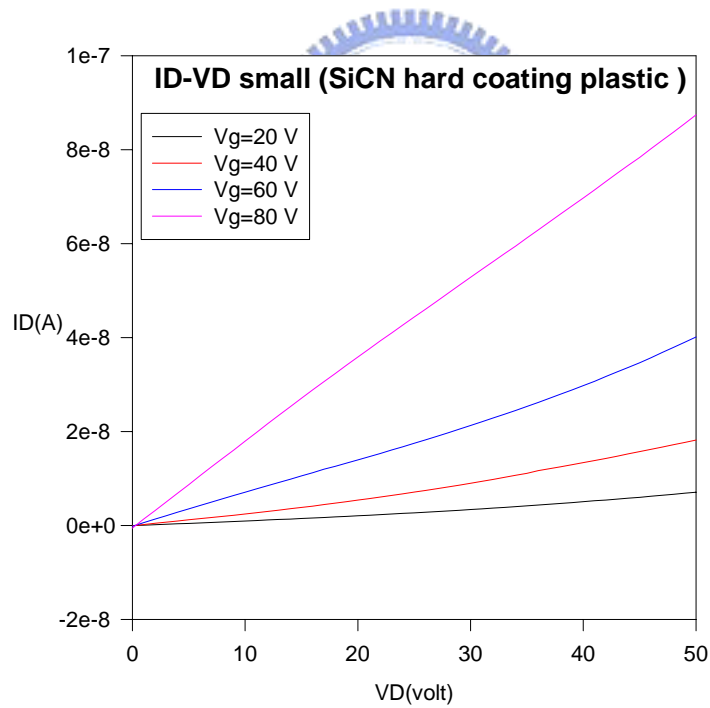
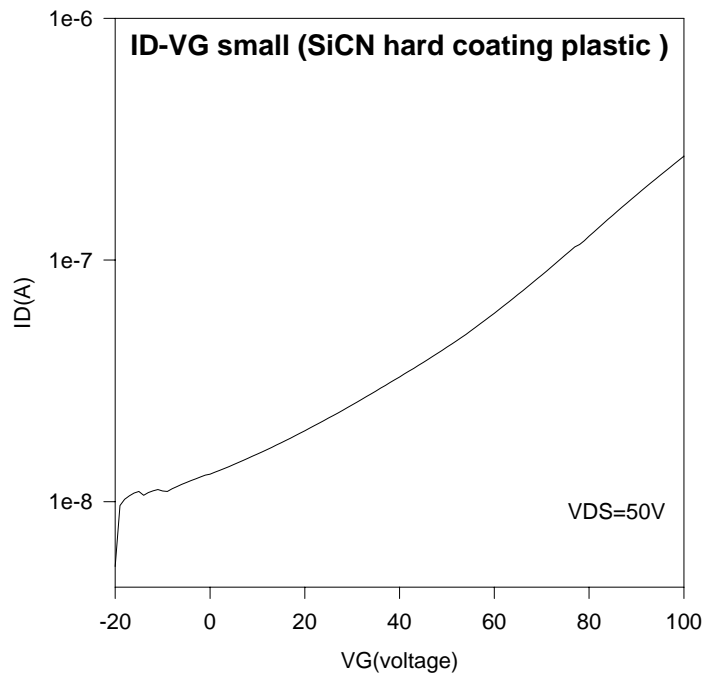


Figure 3-14 I-V characteristics of TFT devices with SiON gate dielectric on the SiCN coated plastic substrate.
 ($W/L = 50 \mu\text{m}/10 \mu\text{m}$)

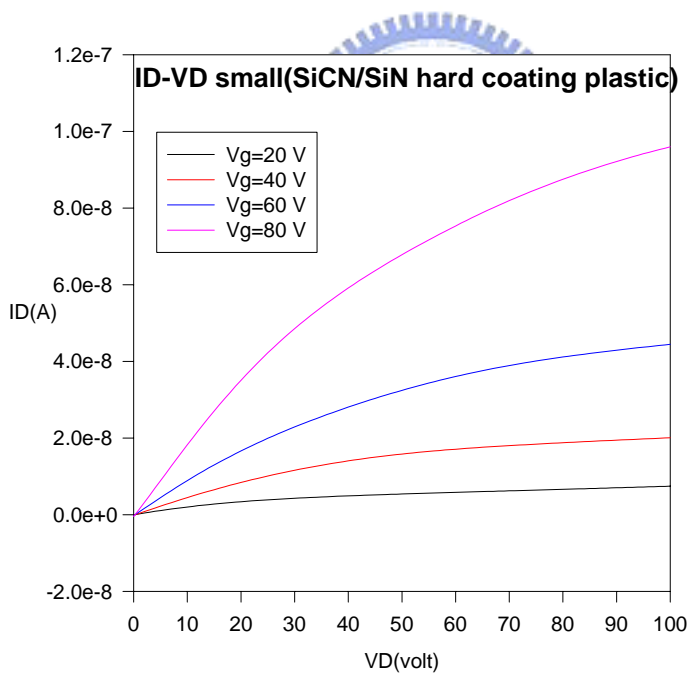
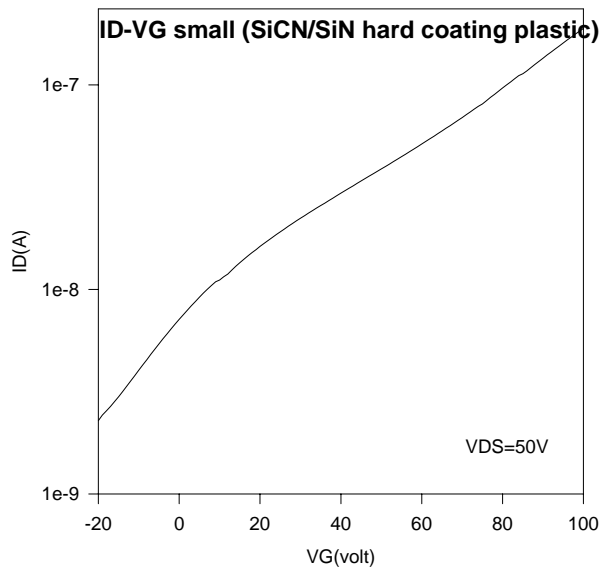


Figure 3-15 I-V characteristics of TFT devices with SiON gate dielectric on the SiCN/SiN coated plastic substrate. ($W/L = 50 \mu\text{m}/50 \mu\text{m}$)

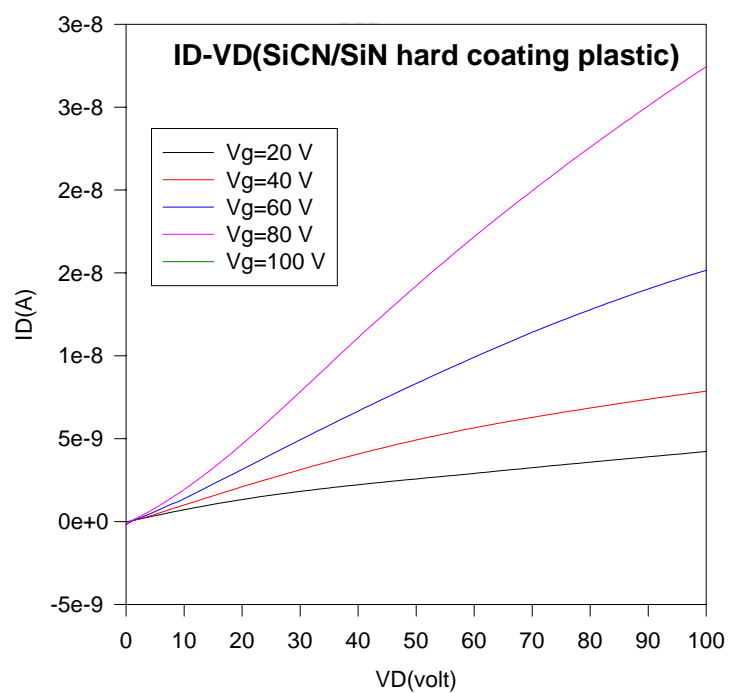
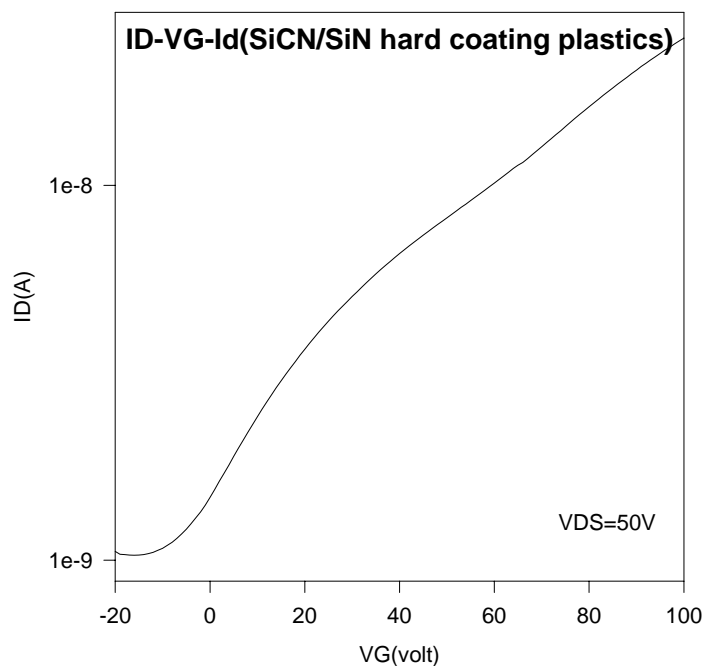


Figure 3-16 I-V characteristics of TFT devices with SiON gate dielectric on the SiCN/SiN coated plastic substrate. (W/L=50 μ m/10 μ m)

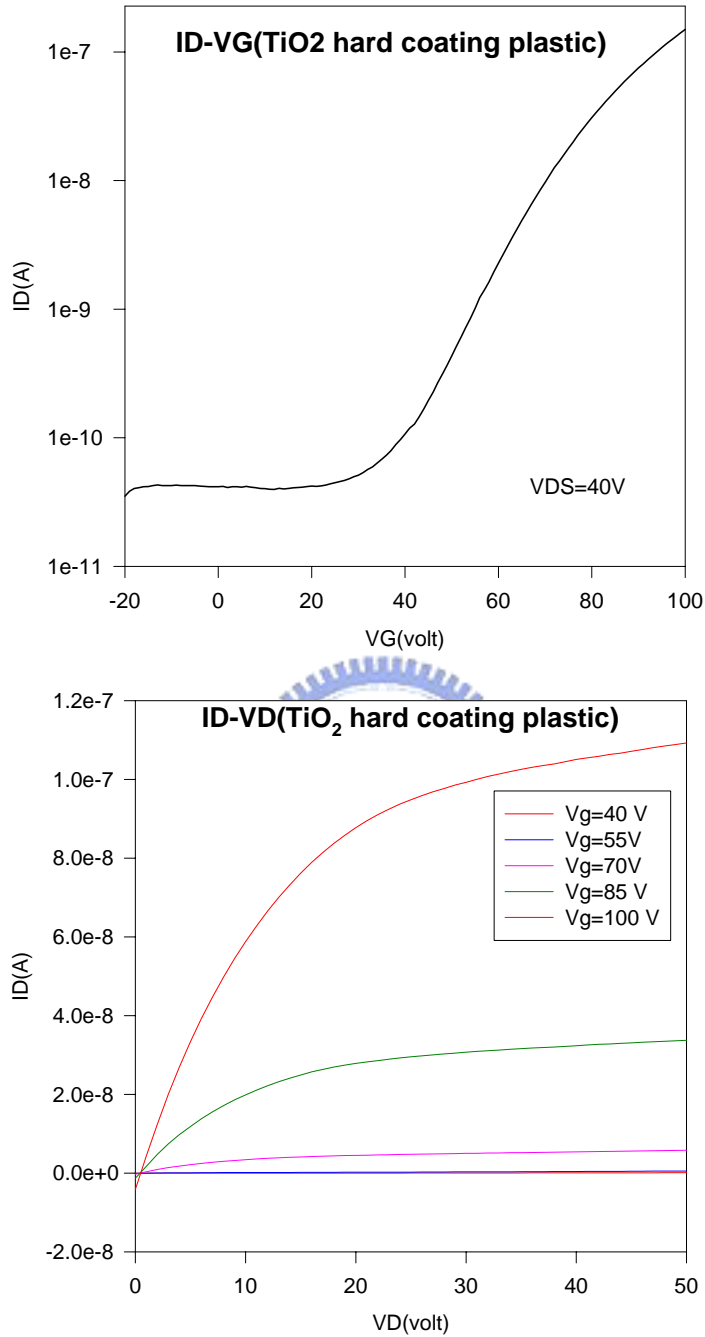


Figure 3-17 I-V characteristics of TFT devices with SiON gate dielectric fabricated on the TiO₂ (800Å) hard coating on the plastic substrate
(W/L=50 μ m/50 μ m)

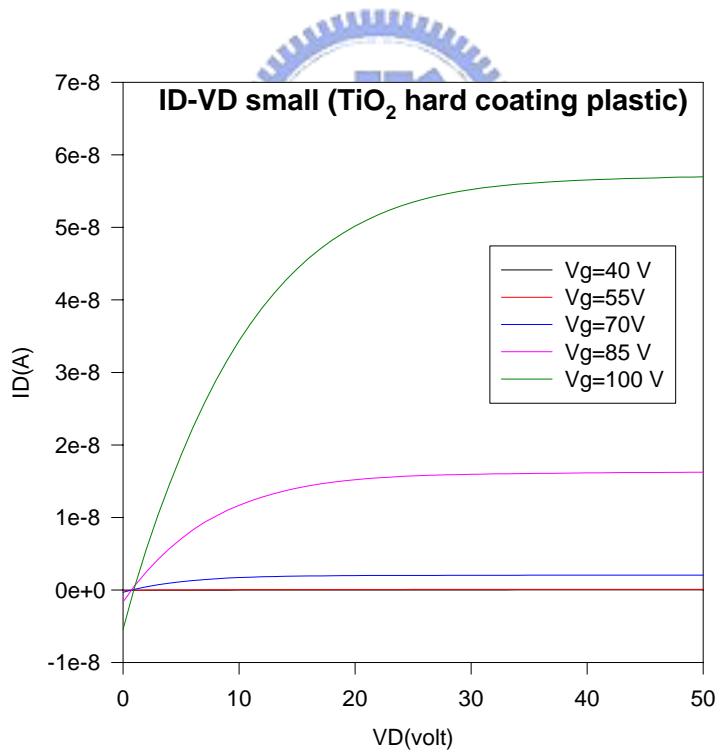
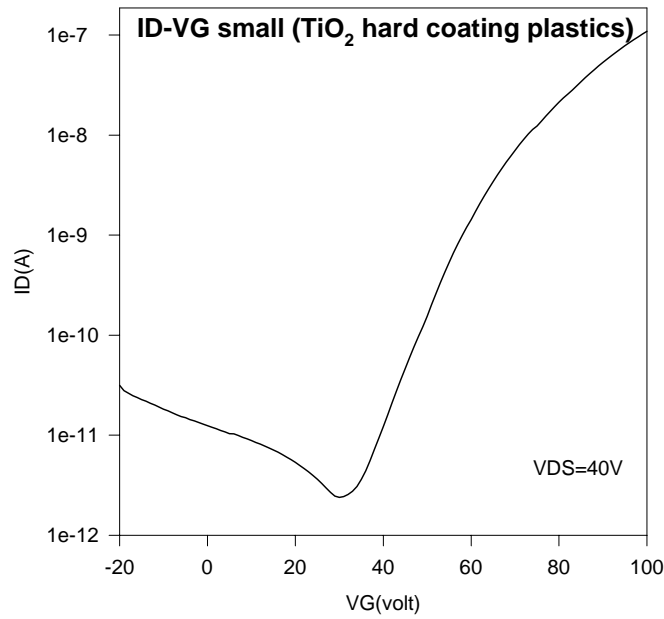


Figure 3-18 I-V characteristics of TFT devices with SiON gate dielectric fabricated on the TiO₂ (800Å) hard coating on the plastic substrate (W/L=50 μm/10 μm)

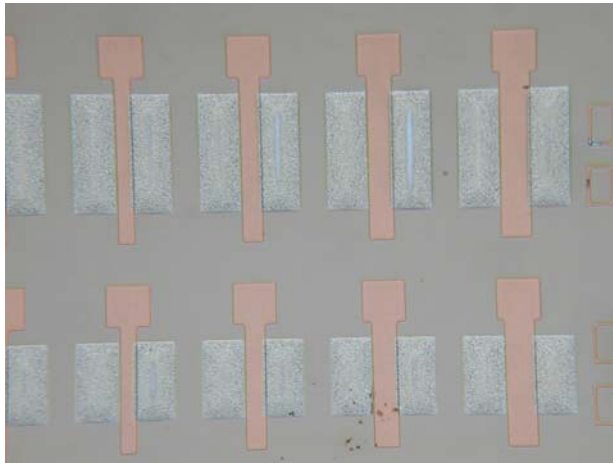


Figure 3-19 picture of the TFT device with the TiO₂ and thin SiON being the gate dielectric

