Supporting Information

Schottky Barrier Thin Film Transistors Using Solution Processed *n*-ZnO

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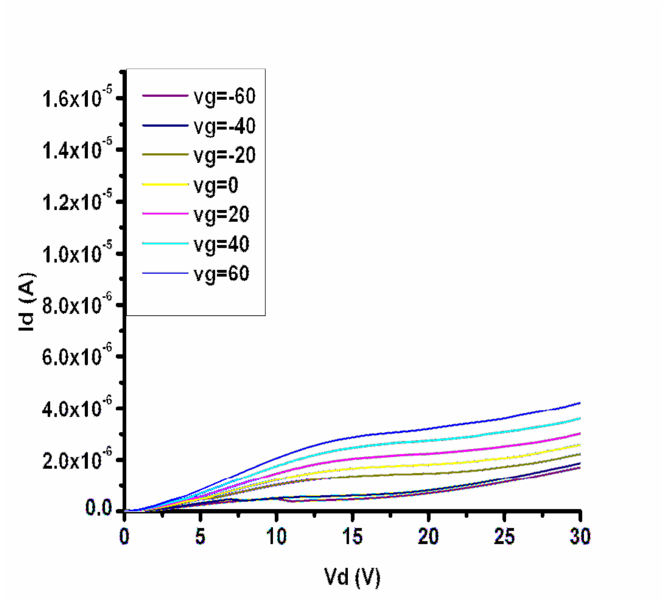


Fig. S1: I_D-V_{DS} of TFT with L=35um, W=200um.

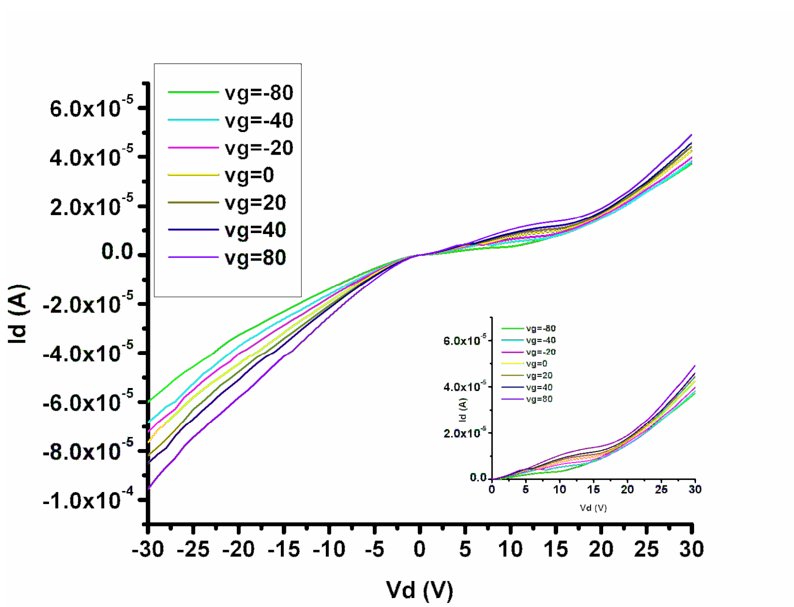
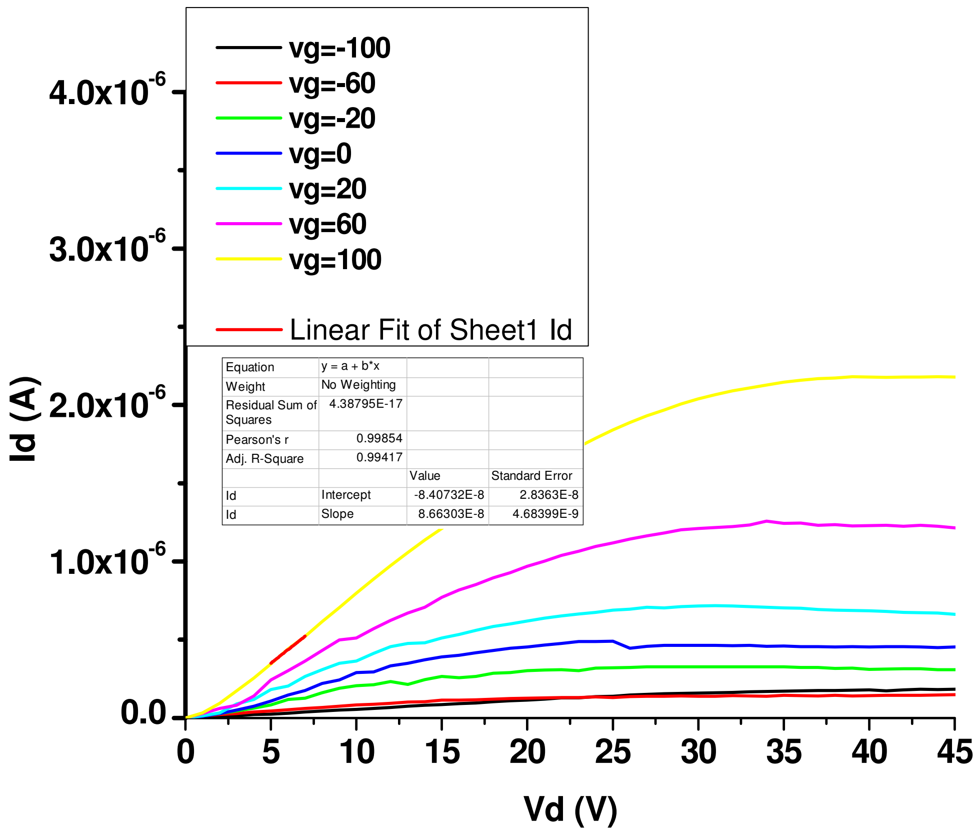


Fig. S2: I_D-V_{DS} of TFT with Channel length (L)=10um, W=100um

Fig. S3 : Linear region mobility calculation



$$I_D = \mu_n C_{ox}\left(\frac{W}{L}\right)((V_{GS} - V_{TH})V_{DS})$$

$$\frac{dI_D}{dV_{DS}} = \mu_n C_{ox}\left(\frac{W}{L}\right)(V_{GS} - V_{TH})$$

$$C_{ox} = \frac{\varepsilon_{ox}\varepsilon_o}{t_{ox}} = \frac{4 * 8.85 * 10\text{^}-12}{200 * 10\text{^}-9} = 1.8 * 10\text{^}-4$$

$$\mu_n = \frac{8.7 * 10\text{^}-8}{1.8 * 10\text{^}-4 * 4 * 210} = 6 * 10\text{^}-7 = 5.75\text{E-}3 \frac{cm^2}{v.S}$$

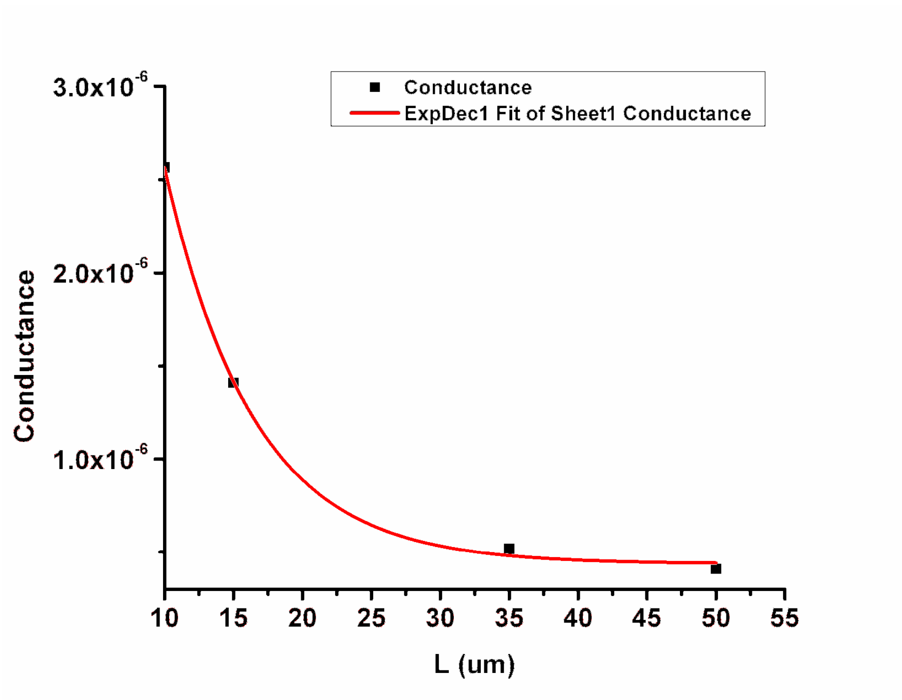


Fig. S4: Channel conductance as a function of channel length**.** The channel conductance (Black squares) is expected to scale with the inverse of the channel length. However we obtained a better fit of the length dependence of the channel conductance using a decaying exponential (red curve).