Electronic Supplementary Material (ESI) for RSC Advances.


# Highly-Stable Flexible Pressure Sensor Using Piezoelectric Polymer Film on Metal Oxide TFT

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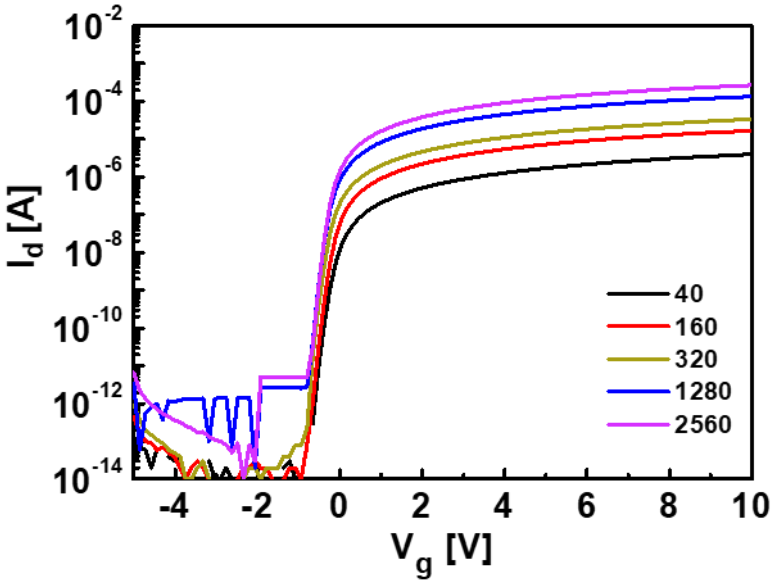


**Fig. S1** Transfer characteristics of a-IGZO TFTs with various active widths. The length of the TFT channel was fixed as 20 μm, while the width of the TFT channel varies from 40 μm to 2560 μm.

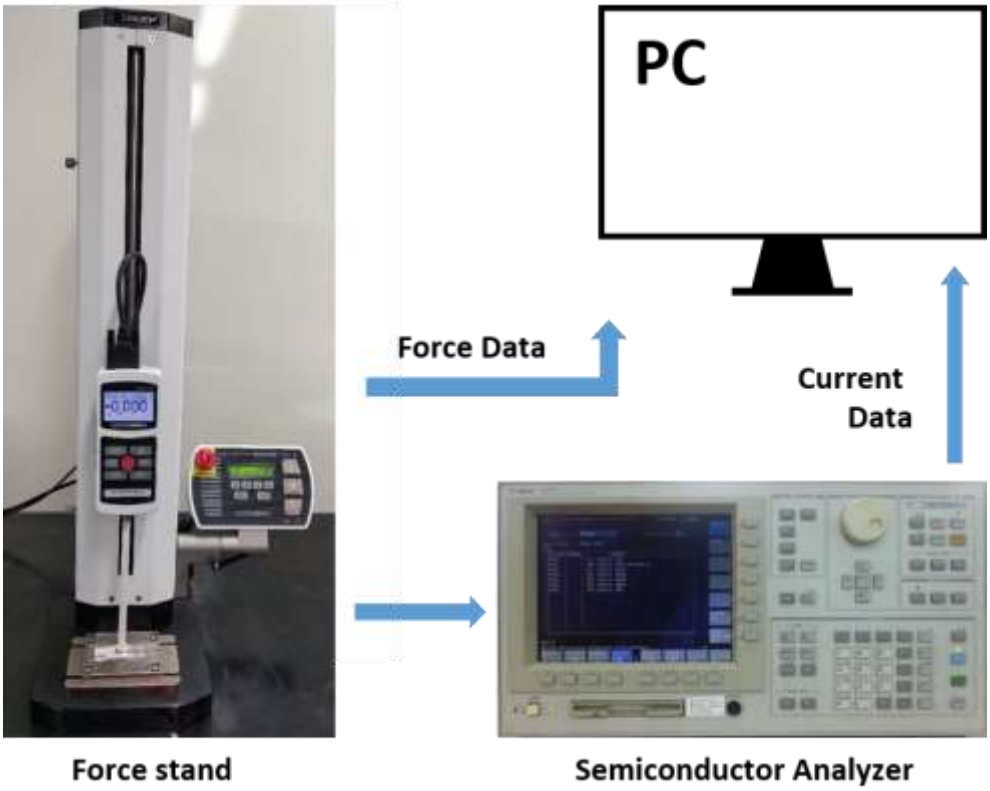


**Fig. S2** Measurement setup for the pressure sensor.

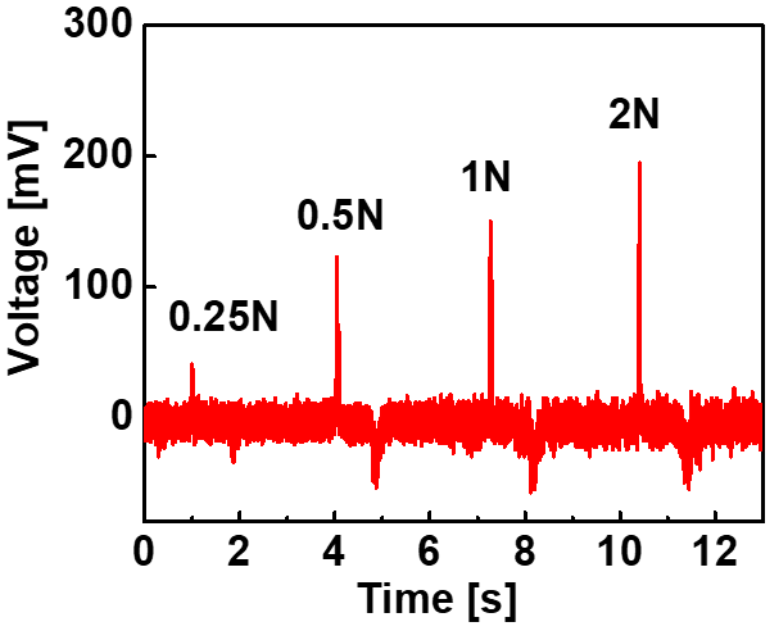


**Fig. S3** Voltage generated across the piezoelectric film when pressure is applied.

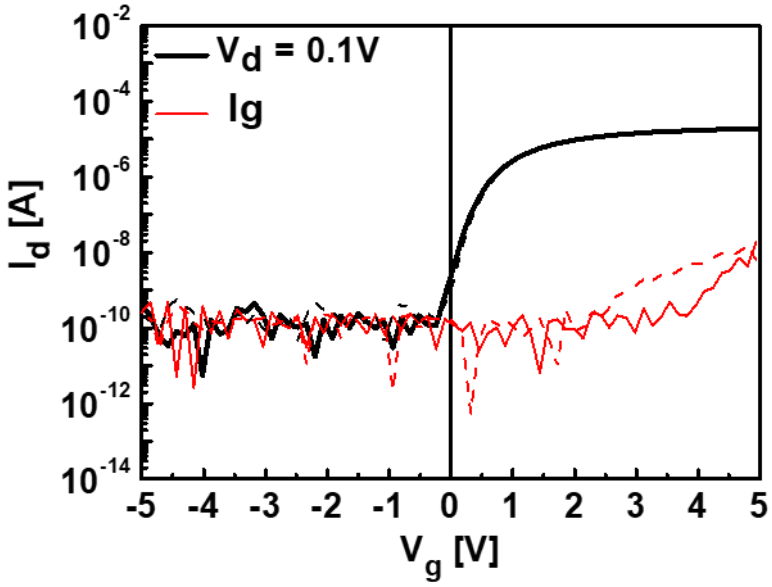


**Fig. S4** Transfer characteristics of a-IGZO TFT measured outside the electromagnetically isolated box.

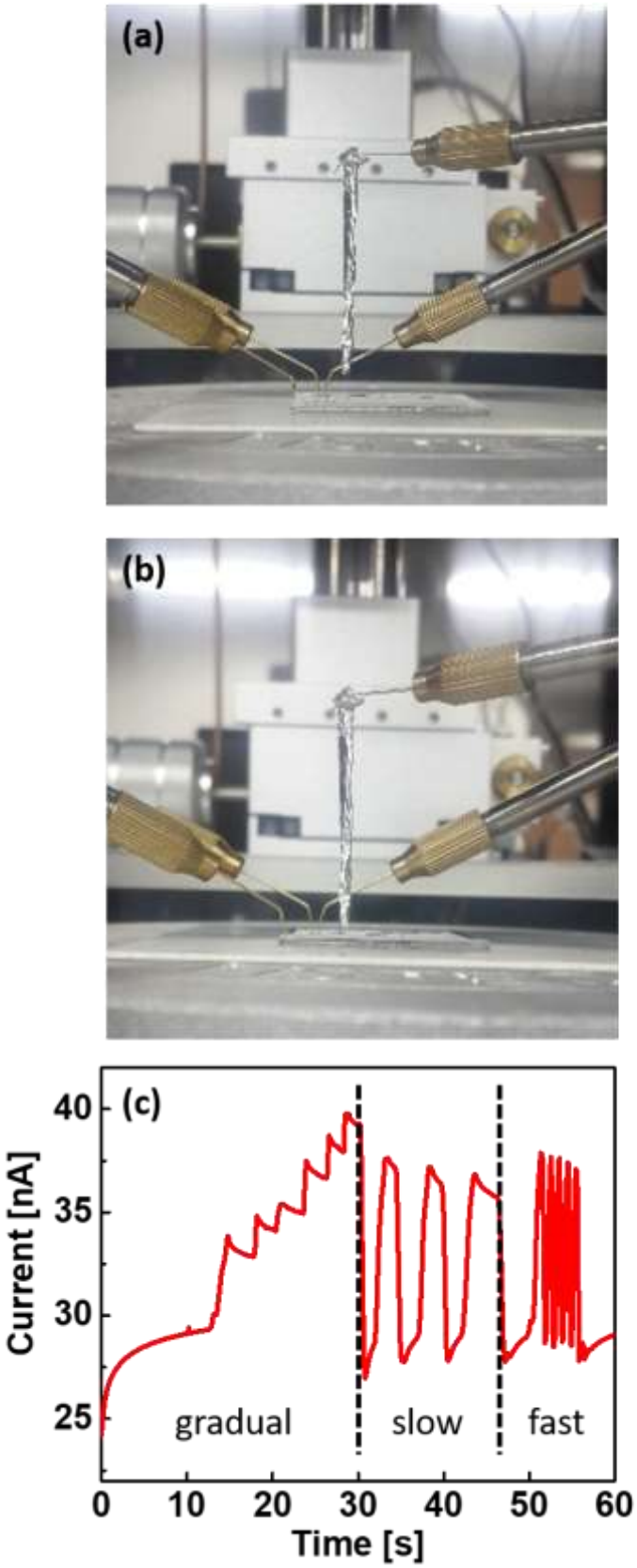


**Fig. S5** Photo images of a piece of debris (a) away and (b) close to the sensor. (c) Current response with a piece of debris gradually approaches, slowly approaches, and rapidly approaches to the sensor.

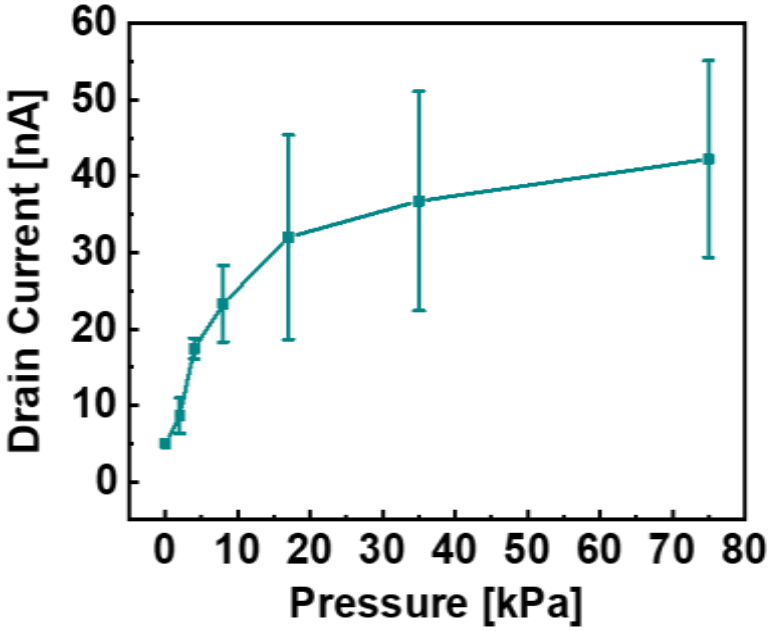


**Fig. S6** Current response with high-speed pressures applied to the sensor.