

FIGURES:

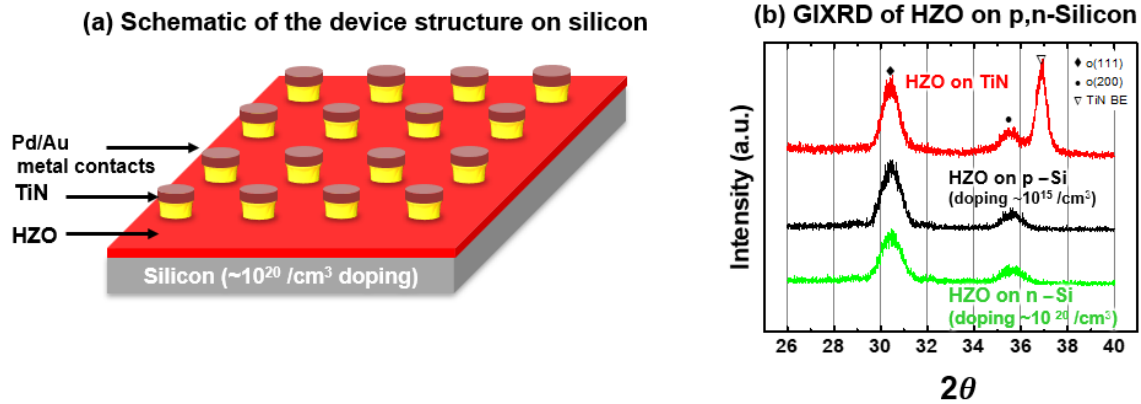


Figure 1: (a) schematic of device structure, (b) GIXRD showing o-phase for HZO deposited on TiN and Silicon.

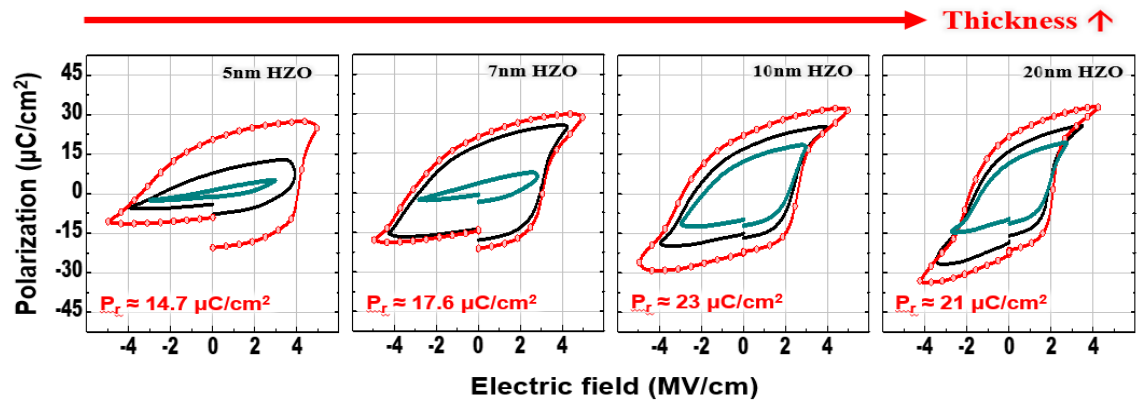


Figure 2: PE hysteresis of MF(I)S capacitors fabricated using degenerate n-Silicon ($\sim 10^{20} / \text{cm}^3$ doping density). 5nm HZO shows significant ferroelectric polarization compared to MFM case. Also, the trends in P_r are similar to those observed in the MFM case.

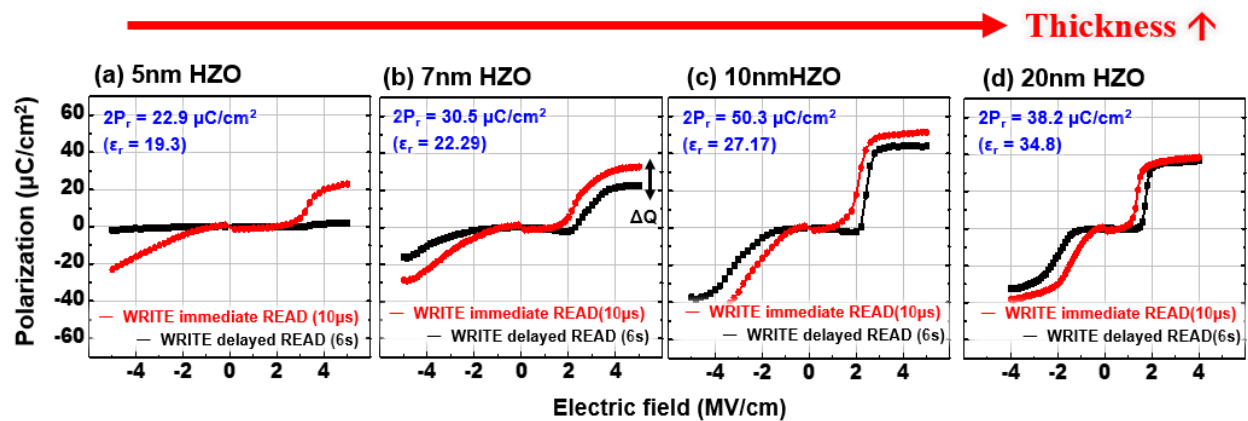


Figure 3: Saturation Curves measured using trapezoidal pulses with different delay time between pulses. As shown in the figures, there is a difference in P_r when the states are read immediately (10 μs) and after some time (6s).