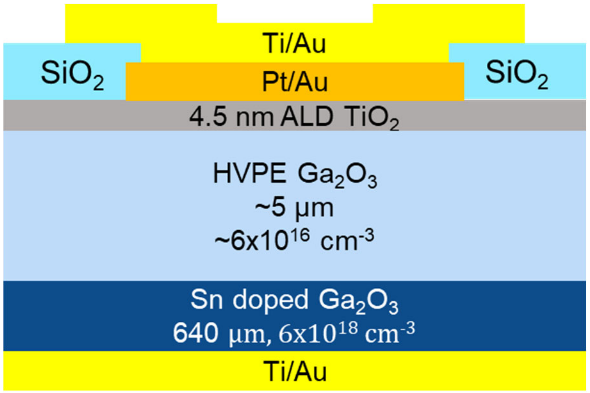

Figure 1: Schematic cross-section of the field-plated Pt/TiO$_2$/β-Ga$_2$O$_3$ MIS diode.

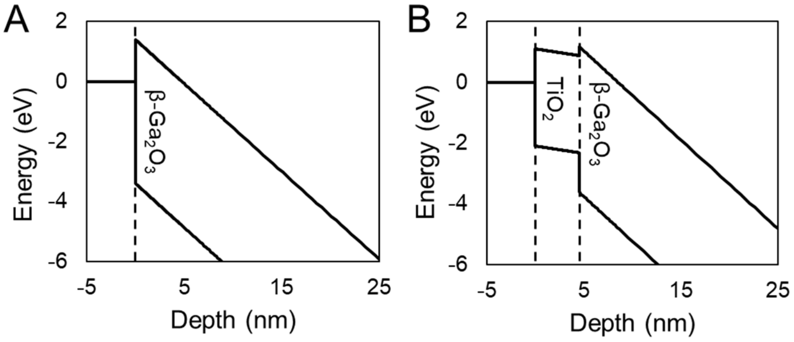

Figure 2: Calculated band diagrams at 300 K for a) SBD and b) MIS diode at reverse bias of 400 V showing wider tunneling barrier in MIS case.

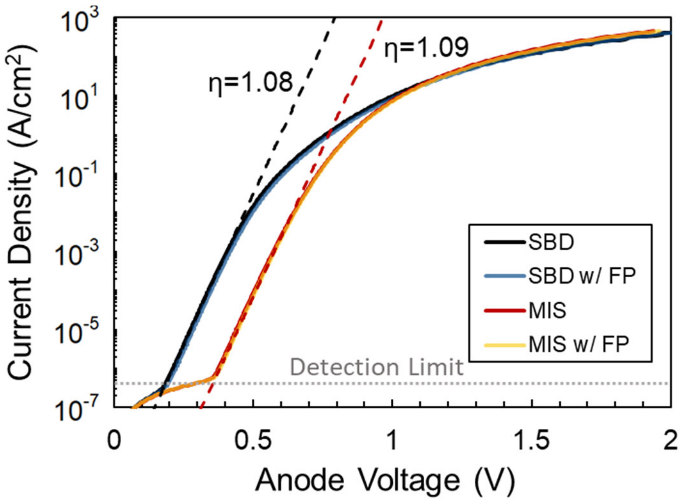

Figure 3: Log scale forward I-V showing low ideality factors and near identical characteristics for FP versus non-FP.

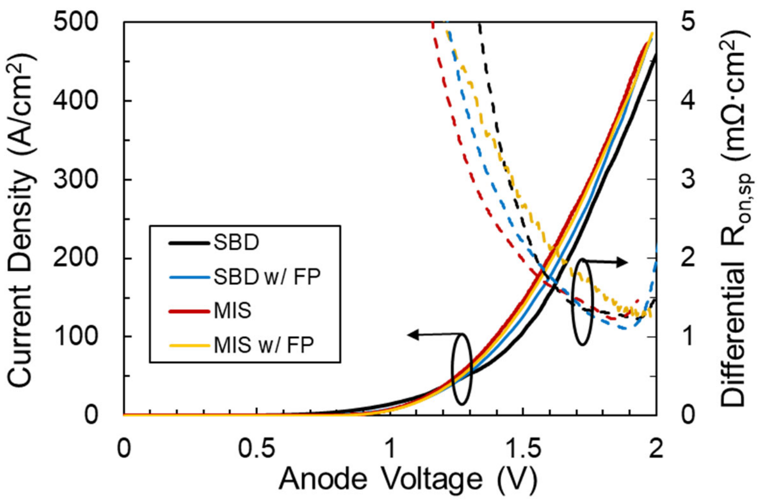

Figure 4: Linear scale forward I-V showing low $R_{on,sp}$ ≤1.2 mΩ·cm^2 for SBDs and MIS diodes.

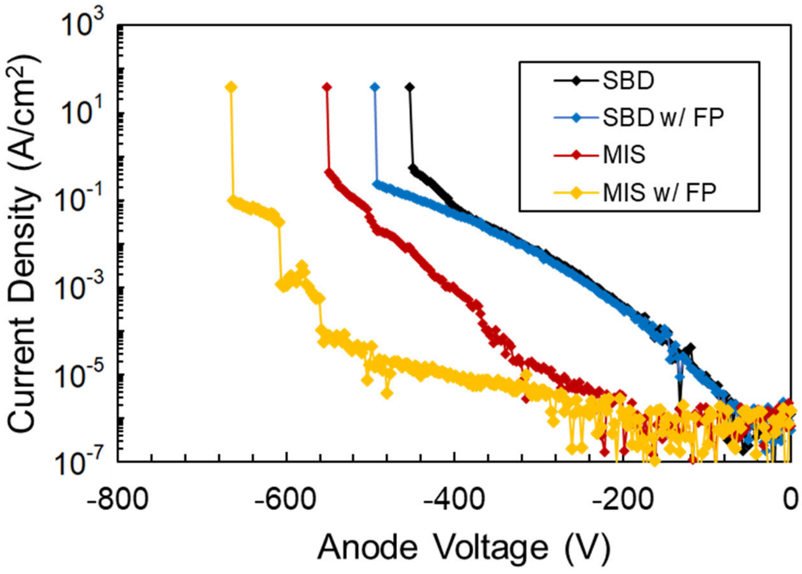

Figure 5: Reverse leakage current up to catastrophic breakdown showing improved V_{bk} and reduced leakage from TiO$_2$ interlayer and field plate.