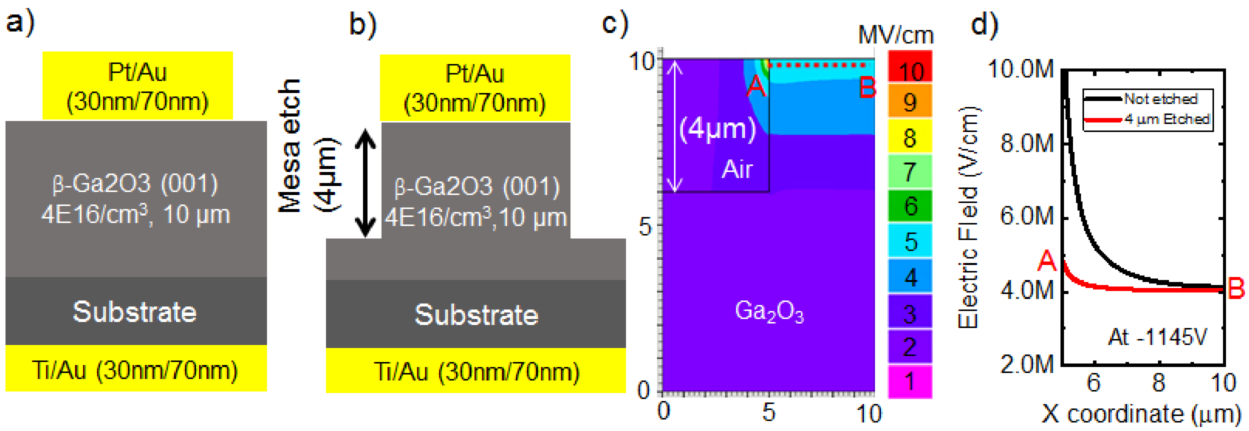

Figure 1: Schematic of (a) unetched and (b) deep-etched devices. (c) 2D electric field simulation of etched device (d) Line plot of electric field along the cut-line (A-B) for etched and unetched devices

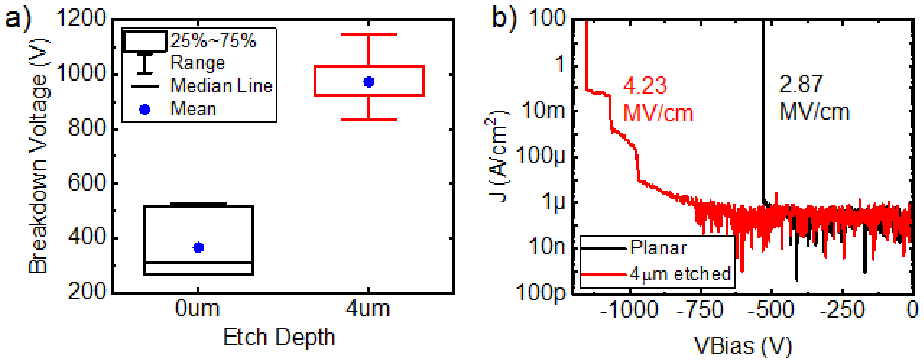

Figure 2: (a) Breakdown voltage for etched and unetched devices (statistical analysis of 10 devices) (b) Reverse electrical characteristics showing breakdown voltage.

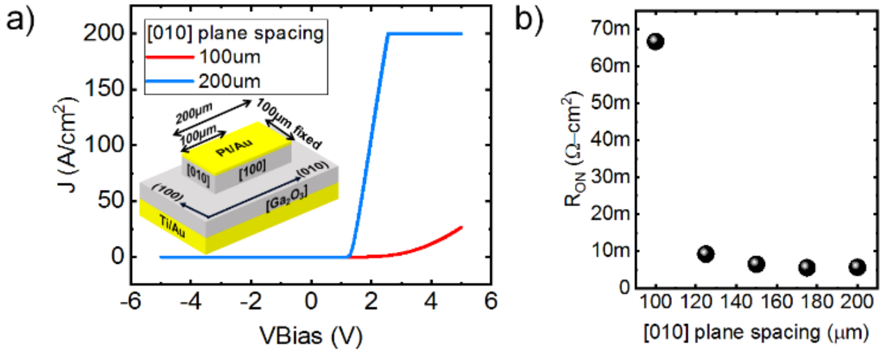

Figure 3: (a) Electrical characteristics of rectangular SBDs. Higher resistance (b) and turn-on voltage was seen when [010]-oriented sidewalls are < 100 um apart.

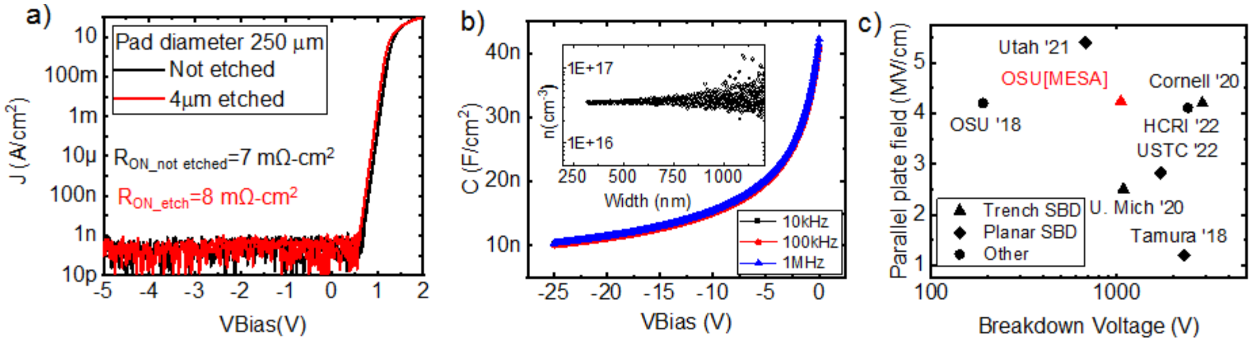

Figure 4: (a) Forward characteristics of etched and unetched circular devices (b) Capacitance-voltage characteristics of unetched device. (inset: extracted charge profile) (c) Comparison of historical parallel plate breakdown field and breakdown voltage for BGO SBDs