

ABSTRACT

The present disclosure provides a process chamber, an upper electrode device thereof, and a semiconductor process equipment. The upper electrode device includes a radio frequency coil and a variable capacitor, where the radio frequency coil is configured to be wound outside a shielding cylinder of the process chamber, and the shielding cylinder is sleeved outside a plasma generation chamber of the process chamber; the variable capacitor is connected in series with the radio frequency coil, and the variable capacitor is configured to be adjusted to different capacitance values in an ignition stage and a reaction stage of the process chamber. The above solution can take into consideration both solving difficult ignition and bombardment of a dielectric window by plasma, and can also mitigate a problem that abnormal discharge is easily caused when the radio frequency coil adopts a lifting structure.