

PLASMA PROCESSING APPARATUS AND PLASMA PROCESSING METHOD**ABSTRACT**

A plasma processing apparatus is disclosed, including a chamber, a substrate support, a plasma generator, and a bias power supply. The substrate support is provided in the chamber. The plasma generator is configured to generate plasma from gas in the chamber. The bias power supply is configured to apply a sequence of a plurality of voltage pulses as an electrical bias to the substrate support. The bias power supply is configured to adjust a maximum voltage level of each of the voltage pulses by adjusting a length of an ON period of each of the voltage pulses.

Fig. 2