

Study of Parameters Affecting the Electrostatic Attractions Force

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Abstract : This paper contains two main parts. In the first part of paper we simulated and studied three type of electrode patterns used in various industries for suspension and handling of the semiconductor and glass and we selected the best pattern by evaluating the electrostatic force, which was comb pattern electrode. In the second part, we investigated the parameters affecting the amount of electrostatic force such as the gap between surface and electrode (g), the electrode width (w), the gap between electrodes (t), the surface permittivity and electrode Length and methods of improvement of adhesion force by changing these values.

Keywords : electrostatic force, electrostatic adhesion, electrostatic chuck, electrostatic application in industry, electroadhesive grippers

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