

Abstract**Electrode for Plasma Processing Chamber**

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An electrode for transmitting radiofrequency power to a plasma processing region includes a plate formed of semiconducting material and a high electrical conductivity layer formed on a top surface of the plate and integral with the plate. The high electrical conductivity layer has a lower electrical resistance than the semiconducting material of the plate. The
10 electrode includes a distribution of through-holes. Each through-hole extends through an entire thickness of the electrode from a top surface of the high electrical conductivity layer to a bottom surface of the plate. In some embodiments, the plate can be formed of a silicon material and the high electrical conductivity layer can be a silicide material formed from the silicon material of the plate.

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Fig. 1