

REPELLER, CATHODE, CHAMBER WALL AND SLIT MEMBER FOR ION IMPLANTER AND ION GENERATING DEVICES INCLUDING THE SAME

ABSTRACT OF THE DISCLOSURE

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Provided are elements for an ion implanter and an ion generating device including the same. The elements include a repeller, a cathode, a chamber wall, and a slit member constituting an arc chamber of an ion generating device for ion implantation used in the fabrication of a semiconductor device. A coating structure including a semicarbide layer is provided to each of the elements in order to stabilize the element against thermal deformation, protect the element from wear, and prevent a deposition product from being peeled off. The coating structure enables precise ion implantation without a change in the position of ion generation or distortion of the equipment. The coating structure allows electrons to be uniformly reflected into the arc chamber to increase the uniformity of plasma, resulting in an improvement in the dissociation efficiency of an ion source gas. The coating structure significantly improves the service life of the element compared to those of existing elements. Also provided are ion generating devices including the elements.

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