ABSTRACT

To provide a method for manufacturing a semiconductor device having a heat-resistant resin film with flip-chip connection structure using a solder bump or a gold bump and an epoxy resin compound laminated thereon, in which adhesiveness is improved particularly after exposure to high temperature and high humidity environments for a long period of time, thereby enhancing the reliability of the semiconductor device.

The method for manufacturing a semiconductor device having a heat-resistant resin film formed on a semiconductor element and an epoxy resin compound layer laminated thereon, comprises carrying out a plasma treatment on a surface of the heat-resistant resin film on which the epoxy resin compound layer is laminated using a nitrogen atom-containing gas containing at least one of nitrogen, ammonia, and hydrazine.