

Development of Epoxy Resin Sheets for Encapsulation of Electronic Devices



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Summary

We developed epoxy resin sheets for encapsulating electronic devices (hereinafter referred to as “encapsulating sheets”), such as electronic components and semiconductors, and brought them to market in 2006. Using the know-how we have developed over the years in semiconductor encapsulating materials and based on design technology that we have developed for thermosetting resin that utilizes an epoxy base, we developed an encapsulating sheet that is flexible at room temperature. As it is possible to carry out simple cavity encapsulation of SAW devices, which are typical radio frequency devices, using this encapsulation sheet the technology is already being used in mass production. In order to further improve these properties and to increase the range of applications in which these sheets can be used, we adopted a multi-layer structure and controlled warpage by decreasing the modulus of elasticity of the resin in order to develop an encapsulating sheet with more advanced functions.

Compared with conventional transfer molding and liquid resin type encapsulation, sheet encapsulating systems are a simple and effective means of encapsulation and in the future it is expected that they will come to be used in a wide range of applications, such as wafer level package encapsulation and module substrate encapsulation.