CLAIMS

1. A semiconductor device comprising a cured product of an adhesive composition comprising a thermosetting resin, a curing agent, an elastomer, and an inorganic filler,

wherein the curing agent comprises a phenolic resin having an alicyclic ring,

the content of the elastomer is 10 to 80 parts by mass with respect to 100 parts by mass of the thermosetting resin, and

wherein the semiconductor device comprises a first semiconductor element connected by wire bonding onto a substrate by means of a first wire, and a second semiconductor element compression-bonded onto the first semiconductor element using the adhesive composition in order to compression-bond the second semiconductor element and also to embed at least a portion of the first wire.

2. The semiconductor device according to claim 1, wherein the thermosetting resin is an epoxy resin.

3. The semiconductor device according to claim 2, wherein the epoxy resin comprises a bisphenol F type epoxy resin.

4. The semiconductor device according to any one of claims 1 to 3, wherein the elastomer is an acrylic resin.

5. The semiconductor device according to any one of claims 1 to 4, wherein the inorganic filler is silica.

6. The semiconductor device according to any one of claims 1 to 5, wherein the content of the inorganic filler is 25% by mass or more based on the total amount of the adhesive composition.

7. The semiconductor device according to any one of claims 1 to 6,

wherein the content of the sum of the thermosetting resin, the curing agent, the elastomer, and the inorganic filler is 95% by mass or more based on the total amount of the adhesive composition.

8. The semiconductor device according to any one of claims 1 to 7, further comprising a curing accelerator.

9. The semiconductor device according to any one of claims 1 to 8, wherein the adhesive composition is formed into a film form.

10. A semiconductor device according to claim 9, wherein

the film-form adhesive is provided on a base material, and

wherein the base material is a dicing tape.

11. The semiconductor device according to claim 10, further comprising a protective film laminated on the surface of the film-form adhesive on the opposite side of the base material.

12. A method for producing the semiconductor device according to claim 9, the method comprising:

connecting the first semiconductor element onto the substrate by means of the first wire electrically;

sticking the film-form adhesive on one side of the second semiconductor element; and

subjecting the second semiconductor element having the film-form adhesive stuck thereto, to compression-bonding by means of the film-form adhesive, and thereby embedding at least a portion of the first wire in the film-form adhesive.