CLAIMS

[Claim 1]. A film-form adhesive for adhering a semiconductor element to a support member for mounting the semiconductor element,

the film-form adhesive comprising a thermosetting resin component, and a leveling agent, and inorganic filter,

wherein the thermosetting resin component comprises a thermosetting resin, a curing agent, and an elastomer, and

with respect to 100 parts by mass of the total mass of the thermosetting resin, the curing agent, and the elastomer,

the total content of the thermosetting resin and the curing agent is 15 to 30 parts by mass,

the content of the elastomer is 70 to 85 parts by mass,

the content of the leveling agent is 0.2 to 1.5 parts by mass, and

the content of inorganic filler is 0.1 to 20 parts by mass with respect to 100 parts by mass.

[Claim 2]. The film-form adhesive according to claim 1, wherein the leveling agent is a compound having a siloxane structure.

~~3. The film-form adhesive according to claim 1 or 2, wherein the thermosetting resin component includes a thermosetting resin, a curing agent, and an elastomer.~~

[Claim ~~4~~3]. The film-form adhesive according to claim 1 or 2~~any one of claims 1 to 3~~, wherein a thickness of the film-form adhesive is 50 μm or less.

[Claim ~~5~~4]~~.~~ An adhesive sheet comprising:

a base material; and

the film-form adhesive according to any one of claims 1 to ~~4~~3 provided on one surface of the base material.

[Claim ~~6~~5]~~.~~ The adhesive sheet according to claim ~~5~~4, wherein the base material is a dicing tape.

[Claim ~~7~~6]~~.~~ A semiconductor device comprising:

a semiconductor element;

a support member for mounting the semiconductor element; and

an adhesive member provided between the semiconductor element and the support member, and adhering the semiconductor element to the support member,

wherein the adhesive member is a cured product of the film-form adhesive according to any one of claims 1 to ~~4~~3.

[Claim ~~8~~7]~~.~~ The semiconductor device according to claim ~~7~~6, wherein the support member includes a member composed of copper.

[Claim ~~9~~8]~~.~~ A method for producing a semiconductor device, the method comprising adhering a semiconductor element to a support member using the film-form adhesive according to any one of claims 1 to ~~4~~3.

[Claim ~~10~~9]~~.~~ A method for producing a semiconductor device, the method comprising:

sticking the film-form adhesive of the adhesive sheet according to claim ~~5 or 6~~4 or 5 to a semiconductor wafer;

cutting the semiconductor wafer having the film-form adhesive stuck thereto to produce a plurality of singulated film-form adhesive-attached semiconductor elements; and

adhering each of the film-form adhesive-attached semiconductor elements to a support member.

[Claim ~~11~~10]~~.~~ The method for producing a semiconductor device according to claim ~~10~~9, further comprising heating the film-form adhesive-attached semiconductor element adhered to the support member, using a reflow furnace.