CLAIMS

{Claim 1}

An adhesive composition for a die attach film, comprising:
an epoxy resin (A),
an epoxy resin curing agent (B),
a polyurethane resin (C), and
an inorganic filler (D),
wherein the polyurethane resin (C) has a tan δ peak top temperature of 0°C or higher in dynamic mechanical analysis, and
wherein a proportion of the polyurethane resin (C) based on a total content of the epoxy resin (A) and the polyurethane resin (C) is from 2 to 50 mass%.

{Claim 2}

The adhesive composition for a die attach film according to claim 1, wherein when a pre-cured film adhesive formed using the adhesive composition for a die attach film is heated at a temperature elevation rate of 5°C/min from 25°C, a melt viscosity at 120°C ranges from 100 to 10,000 Pa·s.

{Claim 3}

A film adhesive for a die attach film obtained from the adhesive composition for a die attach film according to claim 1 or 2.

{Claim 4}

The film adhesive for a die attach film according to claim 3, which has a thickness of 1 to 20 μm.

{Claim 5}

A method of producing a semiconductor package, comprising:

a first step of providing an adhesive layer by thermocompression bonding the film adhesive for a die attach film according to claim 3 or 4 to a back surface of a semiconductor wafer in which at least one semiconductor circuit is formed on a surface, and providing a dicing film with the adhesive layer interposed between the back surface and the dicing film;

a second step of integrally dicing the semiconductor wafer and the adhesive layer to obtain a semiconductor chip with the adhesive layer, the semiconductor chip including the semiconductor chip and a piece of the film adhesive on the dicing film;

a third step of removing the semiconductor chip with the adhesive layer from the dicing film and thermocompression bonding the semiconductor chip with the adhesive layer and a circuit board via the adhesive layer; and

a fourth step of thermally curing the adhesive layer.

{Claim 6}

A semiconductor package wherein a semiconductor chip and a circuit board, or semiconductor chips are bonded with a thermally curable component of the film adhesive for a die attach film according to claim 3 or 4.

{Claim 7}

An adhesive composition, comprising:
an epoxy resin (A),
an epoxy resin curing agent (B),
a polyurethane resin (C), and
an inorganic filler (D),
wherein the epoxy equivalent weight of the epoxy resin (A) is 500 g/eq or less,
wherein the polyurethane resin (C) has a tan δ peak top temperature of 0°C or higher and 60 °C or lower in dynamic mechanical analysis, and
wherein a proportion of the polyurethane resin (C) based on a total content of the epoxy resin (A) and the polyurethane resin (C) is from 4 to 40 mass%.

{Claim 8}

An adhesive composition, comprising:
an epoxy resin (A),
an epoxy resin curing agent (B),
a polyurethane resin (C), and
an inorganic filler (D),
wherein the polyurethane resin (C) has a tan δ peak top temperature of 0°C or higher and 60 °C or lower in dynamic mechanical analysis,
wherein a proportion of the polyurethane resin (C) based on a total content of the epoxy resin (A) and the polyurethane resin (C) is from 4 to 40 mass%, and
wherein the adhesive composition does not include an adhesive composition comprising an acrylic resin which has an epoxy group and has a weight average molecular weight of 500,000 or more and 1,000,000 or less.

{Claim 9}

A film adhesive obtained from the adhesive composition according to claim 7 or 8.