CLAIMS

[Claim 1]

A dicing die attach film, comprising:

a dicing film; and

a die attach film laminated on the dicing film,

wherein the die attach film has an arithmetic average roughness Ra1 of from 0.05 to 2.50 μm at a surface in contact with the dicing film, and an arithmetic average roughness Ra2 of 0.09 μm or less at a surface opposite to the surface in contact with the dicing film, and

wherein a value of ratio of Ra1 to Ra2 is from 1.05 to 28.00.

[Claim 2]

The dicing die attach film according to claim 1,

wherein the die attach film comprises:

an epoxy resin (A),

an epoxy resin curing agent (B),

a polymer component (C), and

an inorganic filler (D), and

wherein the die attach film is thermally cured to give a cured body having a thermal conductivity of 1.0 W/m·K or more.

[Claim 3]

The dicing die attach film according to claim 1 or 2, wherein when the die attach film is heated at a temperature elevation rate of 5°C/min from 25°C, a melt viscosity at 120°C is in a range of 500 to 10,000 Pa·s.

[Claim 4]

The dicing die attach film according to any one of claims 1 to 3, wherein

the dicing film is energy ray-curable.

[Claim 5]

A method of producing the dicing die attach film according to any one of claims 1 to 4, comprising leveling a surface of the die attach film by using a pressure roll to create a surface state satisfying Ra1 and Ra2.

[Claim 6]

A semiconductor package, comprising:

a semiconductor chip and a circuit board which are bonded to each other with a thermally cured product of a bonding agent; and/or

semiconductor chips which are bonded to each other with a thermally cured product of a bonding agent,

wherein the bonding agent is derived from the die attach film of the dicing die attach film according to any one of claims 1 to 4.

[Claim 7]

A method of producing a semiconductor package, comprising the steps of:

a first step of thermocompression bonding the dicing die attach film according to any one of claims 1 to 4 to a back surface of a semiconductor wafer where at least one semiconductor circuit is formed on a surface so that the die attach film is in contact with the back surface of the semiconductor wafer;

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

a third step of removing the semiconductor chip with a bonding agent

layer from the dicing film and thermocompression bonding the semiconductor chip with a bonding agent layer and a circuit board via the bonding agent layer; and

a fourth step of thermally curing the bonding agent layer.