What is claimed is:

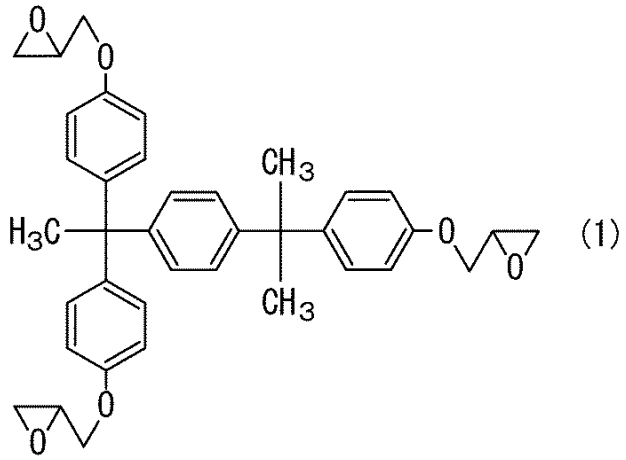
[Claim 1]

An adhesive sheet for producing a semiconductor device which comprises a substrate, and a thermo-setting type adhesive layer provided on one surface of said substrate, and is releasably adhered to a wiring substrate or a lead frame of the semiconductor device,

characterized in that

said adhesive layer comprises (a) a carboxyl group-containing acrylonitrile – butadiene copolymer, (b) an epoxy resin having the following structural formula (1), (c) a compound having two or more maleimide groups, and (d) a reactive siloxane compound.

[Chem. 1]



(1)

[Claim 2]

The adhesive sheet for producing a semiconductor device according to Claim 1, characterized in that said component (a) is a carboxyl group-containing

acrylonitrile-butadiene copolymer having an acrylonitrile content of from 5 to 50% by mass and a carboxyl group equivalent amount calculated from the number average molecular weight of from 100 to 20,000.

[Claim 3]

The adhesive sheet for producing a semiconductor device according to Claim 1, characterized in that a total of said component (b), said component (c) and said component (d) ranges from 30 to 300 parts by mass with respect to 100 parts by mass of said component (a).

[Claim 4]

A method for producing a semiconductor device using the adhesive sheet for producing a semiconductor device as recited in Claim 1, characterized by comprising:

an adhering step of adhering an adhesive sheet for producing a semiconductor device to a lead frame or a wiring substrate,

a die attaching step of mounting a semiconductor element on said lead frame or said wiring substrate,

a wire bonding step of electrically connecting said semiconductor element to an external connection terminal,

a sealing step of sealing said semiconductor element with a sealing resin, and

a releasing step of releasing said adhesive sheet for producing a semiconductor device from said lead frame or said wiring substrate after said sealing step.

[Claim 5]

The adhesive sheet for producing a semiconductor device according to Claim 1, characterized in that a fluorine additive is contained in said adhesive layer.

5