SEMICONDUCTOR DEVICE, RESIN COMPOSITION FOR BUFFER COATING, RESIN COMPOSITION FOR DIE BONDING, AND RESIN COMPOSITION FOR ENCAPSULATING

ABSTRACT

This invention can provide a semiconductor device exhibiting excellent anti-solder reflow resistance and higher reliability in surface mounting using a lead-free solder. In accordance with the present invention, there is provided a semiconductor device formed by placing a semiconductor chip whose surface is coated with a cured resin composition for buffer coating on a pad in a lead frame via a cured resin composition for die bonding and encapsulating the semiconductor chip on the pad in the lead frame by a cured resin composition for encapsulating, wherein the cured resin composition for buffer coating has an elastic modulus of 0.5 GPa to 2.0 GPa both inclusive at 25 °C; the cured resin composition for die bonding has an elastic modulus of 1MPa to 120 MPa both inclusive at 260 °C; and the cured resin composition for encapsulating has an elastic modulus of 400 MPa to 1200 MPa both inclusive at 260 °C and a thermal expansion coefficient of 20 ppm to 50 ppm both inclusive at 260 °C, and the product of the elastic modulus of the cured resin composition for encapsulating and thermal expansion coefficient of the cured resin composition for encapsulating is 8000 to 45000 both inclusive.

Figure 1 accompanies the abstract