ABSTRACT

BONDING WIRE FOR SEMICONDUCTOR DEVICE

There is provided a Cu bonding wire having a Pd coating layer on a surface thereof, that improves bonding reliability of a ball bonded part in a high-temperature and high-humidity environment and is suitable for on-vehicle devices.

The bonding wire for a semiconductor device includes a Cu alloy core material and a Pd coating layer formed on a surface thereof, and the boding wire contains one or more elements of As, Te, Sn, Sb, Bi and Se in a total amount of 0.1 to 100 ppm by mass. With this configuration, it is able to increase the bonding longevity of a ball bonded part in a high-temperature and high-humidity environment, and thus to improve the bonding reliability. When the Cu alloy core material further contains one or more of Ni, Zn, Rh, In, Ir, Pt, Ga and Ge in an amount, for each, of 0.011 to 1.2% by mass, it is able to increase the reliability of a ball bonded part in a high-temperature environment of 170°C or more. When an alloy skin layer containing Au and Pd is further formed on a surface of the Pd coating layer, wedge bondability improves.