ABSTRACT

BONDING WIRE FOR SEMICONDUCTOR DEVICE

There is provided a bonding wire for a semiconductor device, the bonding wire including a Cu alloy core material and a Pd coating layer formed on a surface thereof, achieving simultaneously improvement in bonding reliability of a ball bonded part in HTS at 175°C to 200°C and an strength ratio (= ultimate strength/0.2% offset yield strength) of 1.1 to 1.6.

Containing one or more of Ni, Zn, Rh, in, Ir, and Pt in the wire in a total amount of 0.03 to 2% by mass improves the bonding reliability of the ball bonded part in HTS, and furthermore, making an orientation proportion of a crystal orientation <100> angled at 15 degrees or less to a wire longitudinal direction among crystal orientations in the wire longitudinal direction 50% or more when measuring crystal orientations on a cross-section of the core material in a direction perpendicular to a wire axis of the bonding wire, and making an average crystal grain size in the cross-section of the core material in the direction perpendicular to the wire axis of the bonding wire 0.9 to 1.3 μm provides a strength ratio of 1.6 or less.