

ABSTRACT

There is provided a novel Cu bonding wire that achieves a favorable FAB shape and achieves a favorable
bond reliability of the 2nd bonded part even in a rigorous
high-temperature environment. The bonding wire for
semiconductor devices is characterized in that the bonding
wire includes: a core material of Cu or Cu alloy; and a
coating layer containing conductive metal other than Cu
formed on a surface of the core material, wherein the
coating layer has a region containing Pd as a main
component on a core material side, and has a region
containing Ni and Pd in a range from a wire surface to a
depth of 0.5d when a thickness of the coating layer is
defined as d (nm) in a thickness direction of the coating
layer, the thickness d of the coating layer is 10 nm or
more and 130 nm or less, a ratio C_{Ni}/C_{Pd} of a concentration
 C_{Ni} (mass%) of Ni to a concentration C_{Pd} (mass%) of Pd
relative to the entire wire is 0.02 or more and 0.7 or
less, a position indicating a maximum concentration of Ni
is present in the range from the wire surface to a depth of
0.5d in a concentration profile in a depth direction of the
wire, and the maximum concentration of Ni is 10 atomic% or
more, and at least one of the following conditions (i) and
(ii) is satisfied:

(i) a concentration of In relative to the entire wire
is 1 ppm by mass or more and 100 ppm by mass or less

(ii) a concentration of Ag relative to the entire wire
is 1 ppm by mass or more and 500 ppm by mass or less.

[No suitable figure]