ABSTRACT

CIRCUIT CONNECTION STRUCTURE, METHOD FOR MANUFACTURING SAME, AND SEMICONDUCTOR SUBSTRATE FOR CIRCUIT CONNECTION STRUCTURE

Disclosed is a circuit connection structure wherein excellent adhesion is attained between a heat-resistant resin film and a circuit connecting member even under high temperature, high humidity conditions by improving adhesion of the heat-resistant resin film by introducing a chemically stable functional group into the heat-resistant resin film through an additional surface treatment. Specifically disclosed is a circuit connection structure (1A) wherein a semiconductor substrate (2) and a circuit member (3) are bonded together with a circuit connecting member (4) interposed between them. A first circuit electrode (6) on the surface of the semiconductor substrate (2) and a second circuit electrode (7) of the circuit member (3) are electrically connected with each other by conductive particles (8) in the circuit connecting member (4). The semiconductor substrate (2) is surface-modified by a plasma process using a nitrogen-based gas containing nitrogen, ammonia and the like. Consequently, the heat-resistant resin film (5) of the semiconductor substrate (2) and the circuit connecting member (4) are firmly bonded with each other over a long time even under high temperature, high humidity conditions.

Figure 1