

SOLDER ALLOY, SOLDER PASTE, SOLDER BALL, SOLDER PREFORM, AND SOLDER JOINT

ABSTRACT

[Problem] Provided are a solder alloy, a solder paste, a solder ball, a solder preform, and a solder joint which have excellent drop impact resistance and heat cycle resistance, can suppress the occurrence of chip standing, bridges and icicles, and can also suppress the occurrence of electromigration.

[Solution] A solder alloy has an alloy composition consisting of, by mass%, Ag: 0.3 to 1.9%, Cu: 0.40 to 1.00%, Bi: 0.5 to 4.9%, P: 0.00100 to 0.02000%, with the balance being Sn. The alloy composition may further contain, by mass%, each of Ge, Co and Ga in an amount of 0.06% or less, and at least one. In addition, the alloy composition may further contain, by mass%, each of As, In, Zr, Mn, Ti, Zn, Fe, Al, Ni, Au, Mg, Cr and Pt in an amount of 0.06% or less, and at least one.

[FIG. 1]