

Abstract

The present invention relates to thick-film microelectronics. The polymer conductive paste for heterojunction solar cells contains silver powder, an organic binding agent, which contains a structure-forming agent as a part of the solvent, and a functional additive, wherein a halogenic polymer with the softening temperature of below 200°C is used as the structure-forming agent, and a polymer organic-silicon compound with the number of siloxane units less than 3000 is used as the functional additive, the mixture ratio is the following (%wt.): the silver powder – 80-95; the organic binding agent – 4-18; the functional additive – 0.1-2.0. The average particle size for the silver powder can be D50 0.5-5.0 μm . The quantity of the structure-forming agent as a part of the organic binding agent can be 5-10% wt. The functional additive can contain some additional components. When measuring the rheological properties of conductive paste in the coordinates “shear velocity $\dot{\gamma}$ [c^{-1}] – shear stress τ [Pa]”, the flow curve is characterized by a negative slope when the threshold value of shear velocity of 40 c^{-1} is exceeded. The technical result is improvement of a solar converter efficiency, reduction of a degree of the paste surface tension, improvement of the silk-screen printing process and conductive contact topology, reduction of conductor linear and specific resistance, enhancement of conductor conductivity.