

HIGH TEMPERATURE FEATURES
OF THE POLYCRYSTALLINE SILICON
PHYSICAL PROPERTIES

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S u m m a r y

The temperature dependences of the conductance, concentration, and mobility of charge carriers (CCs) in polycrystalline silicon (PCS) have been studied experimentally. It has been shown that the PCS conductance not only varies due to the thermal scattering of CCs in single-crystalline silicon (SCS) (this process is described by an exponential law), but depends, to a greater extent, on the origin of potential barriers at grain boundaries (GBs), so that the variation of the PCS parameters with temperature is nonmonotonous.