

INFLUENCE OF LOW-TEMPERATURE
PROCESSING WITH ATOMIC HYDROGEN
ON THE SYSTEM Cu-Ge

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S u m m a r y

We study the influence of hydrogen processing on Ge crystals with Cu films at temperatures 300 - 310 K and the atomic hydrogen concentrations of $5 \cdot 10^{13} - 10^{15} \text{ cm}^{-3}$. Specimens of 5×4 in size were processed for 150 - 7200 s. We estimate the influence of atomic hydrogen on the voltage-current characteristics of specimens and on other electrophysical parameters, in particular, specific resistance, mobility, life time, the diffusion coefficient, and the free path of charge carriers. By using the slope of the curve of conductivity vs temperature, we find the values of energy levels of defects in specimens processed with atomic hydrogen for various times. The voltage-current characteristics of specimens acquire the rectifying form after a short-term processing. It was observed that the adhesion of films grew significantly after the processing for 600 s at a concentration of 10^{14} cm^{-3} . The explanations of these phenomena are presented.