

SOLAR CELLS BASED
ON a-Si_{0.80}Ge_{0.20}:H AMORPHOUS FILMS

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S u m m a r y

The electrical properties, spectral dependence of photoconductivity, ESR and IR absorption spectra of a-Si_{0.80}Ge_{0.20}:H films, and a-Si_{0.80}Ge_{0.20}:H-based solar cell structures of the $p-i-n$ junction and Pt/ a-Si_{0.80}Ge_{0.20}:H Schottky-barrier types are examined. The results of studies show that the a-Si_{1-x}Ge_x:H ($x \leq 0.20$) material is thermodynamically stable and is important for manufacturing the solar energy converters. Solar cells with the energy conversion efficiency of 5.9 and 4.2% for $p-i-n$ and Pt/ a-Si_{0.80}Ge_{0.20}:H structures, respectively, have been obtained.