

## FEATURES OF CHARGE TRANSPORT IN Mo/*n*-Si STRUCTURES WITH A SCHOTTKY BARRIER

*O. Ya. Olikh*

Taras Shevchenko National University of Kyiv,  
Faculty of Physics  
(64, Volodymyrs'ka Str., Kyiv 01601, Ukraine)

### S u m m a r y

Forward and reverse current-voltage characteristics of Mo/*n*-Si Schottky barrier structures have been studied experimentally in the temperature range 130 ÷ 330 K. The Schottky barrier height is found to increase and the ideality factor to decrease, as the temperature grows. The obtained results are analyzed in the framework of a non-uniform contact model. The average value and the standard deviation of a Schottky barrier height are determined to be 0.872 and 0.099 V, respectively, at  $T = 130 \div 220$  K and 0.656 and 0.036 V, respectively, at  $T = 230 \div 330$  K. Thermionic emission over the non-uniform barrier and tunneling are shown to be the dominant processes of charge transfer at a reverse bias voltage.