

HUMIDITY SENSITIVE STRUCTURES ON THE BASIS OF POROUS SILICON

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S u m m a r y

The effect of adsorption-desorption processes of water vapors on the electric conductivity and high-frequency capacity of sensor structures based on porous silicon is investigated in the temperature range $15 \div 40$ °C. A significant variation of the electric conductivity and the capacity as functions of the water vapor concentration is registered. To estimate the sensor properties, the adsorption sensitivity of porous silicon structures and multilayer structures with a film of catalytic material were calculated. The kinetics of response of the structures to a change of the water vapor concentration is investigated. The obtained results allow one to optimize the processes of creation of humidity sensors on the basis of porous silicon.