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Amplitude characteristics of noise diodes

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The paper presents the results of a study of the amplitude characteristics of noise diodes, namely the dependence of the amplitude and frequency of noise diode pulses on the reverse bias voltage. Silicon noise diodes produced by JSC "TsVETOTRON" (Republic of Belarus) models ND102L, ND103L and ND104L were chosen as objects of study. It was found that an increase in overvoltage leads to an increase in the average amplitude of noise pulses. It has been established that the greatest stabilization of the supply voltage to maintain a constant value of the amplitude of the noise pulses is necessary for noise diodes ND104L, and the least - for ND102L. It was found that the amplitude distributions of noise diode pulses had a pronounced maximum, which shifted with increasing overvoltage towards larger amplitude values, and the magnitude of this peak decreases with increasing overvoltage. The results of this article can be used in the development of digital systems for transmitting and protecting information.

Keywords: noise diode, repetition rate of noise pulses, amplitude distribution of noise pulses.

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