

## EFFECT OF TEMPERATURE ON RESISTANCE OF LEDS BASED ON ALGAS TO 60CO GAMMA RADIATION

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The paper presents the results obtained in the study of the change in the parameters of IR LEDs based on AlGaAs double heterostructures under <sup>60</sup>Co gamma irradiation with regard to irradiation temperature.

The study indicated several consecutive stages of LED emissive power lowering under ionizing radiation. Increased temperature during gamma irradiation enhances radiation resistance at the first stage due to radiation-stimulated defect annealing, which reduces relative contribution of the first stage to the overall emissive power lowering.

It was found that in exposure at temperature more than 400 K, the first stage of LED emissive power lowering is completely eliminated. At the second stage, increase in resistance is caused by the decreased relative contribution of the less stable first stage to the overall emissive power lowering. The maximum resistance of LEDs to gamma radiation depends on radiation resistance of metal–semiconductor contacts.

**Keywords:** *LED, radiation resistance, gamma-quanta, temperature.*