

Development of Microwave Monolithic Integrated Circuits of 5-mm Wavelength Range for Application in Perspective Space Systems

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Abstract. IUHFSE RAS has developed on the basis of nitride heterostructures a set of monolithic integrated circuits intended for application in the receiver-transmitter modules with rigid restrictions for the mass-dimensional characteristics and power consumption, and increased requirements to the resistance to the external and special factors, and operating in the frequency range of 57–64 GHz. Technical and operational characteristics of the specified products are presented. The developed monolithic integrated circuits can be used in severe service conditions and, due to their functionalities, they can be applied in the telecommunication systems and for control of the space vehicles.

Keywords: electronic component base, super high frequency, monolithic integrated circuit, nitride heterostructure