

SPACE POWER SYMPOSIUM (C3)
Wireless Power Transmission Technologies, Experiments and Demonstrations (2)

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DESIGN AND APPLICATIONS OF EFFICIENT MICROWAVE RECTIFIERS FOR WIRELESS
POWER TRANSMISSION

Abstract

A microwave rectifier is one of the key components of a microwave wireless power transmission system. Microwave rectifiers are usually integrated with antennas to form rectenna, which receives microwave radiation and converts into DC for load. The conversion efficiency and power capacitance are two important aspects of microwave rectifiers. The MW-DC conversion efficiency affects the total efficiency of the microwave wireless power transmission system. In this paper, the GaAs Schottky diodes are applied to build high efficiency microwave rectifiers. A few microwave rectifiers at S band and C band are designed, fabricated and measured. The highest efficiency of a compact microwave rectifier, which contains a single diode in series, reaches 84