SPACE POWER SYMPOSIUM (C3)
Advanced Space Power Technologies and Concepts (3)

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RESEARCH ON SEVERAL KEY PROBLEMS AFFECTING RELIABILITY OF SOLID-STATE POWER SWITCH AND SPACE SOLID-STATE POWER DISTRIBUTION SYSTEM

Abstract

The solid-state power switches (SSPC, LCL etc.) based on MOSFET have been widely used in space intelligent power distribution system, and become an important component of the advanced space power systems. This paper analyzes the load capacity of various solid-state power switch, and the factors which affecting reliability and stability of solid-state power switches and solid-state power distribution system, such as, bugs of power distribution system, extreme operating conditions of solid-state power switches, and so on. In this paper, How to improve reliability and stability of solid-state power distribution system has been studied too, in order to make the space solid-state power system can meet all kinds of extreme conditions and faults of loads, achieve high reliability and high stability, and optimize the hardware of space distribution system.

KEY WORDS: Solid-State Power Switch, Solid-State Power Distribution, Reliability