

SPACE POWER SYMPOSIUM (C3)
Interactive Presentations (IP)

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DESIGN OF HIGH RELIABILITY COMPOUND SWITCH CIRCUIT FOR AEROSPACE
APPLICATION

Abstract

For the large volume and low reliability of power supply switch in traditional aerospace equipment, a high reliability compound switch circuit is proposed, power bus is controlled to switch by controlling the power MOSFET's gate-to-source voltage with a small relay; the principle of the circuit is analysed, and design method of the components is showed; the experiment result indicates that this switch circuit can control the power bus to switch reliable, the inrush current can be reduced more than 90% by changing the soft capacitor; the circuit has small volume and high reliability. It has been applied in satellite payload power supply, and it can has a wide range of promotional value which can be applied to the fields, such as deep space exploration and manned moonfall.