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THIRD PARTY VERIFICATION BASED RELIABILITY ASSURANCE TECHNIQUE OF SPACE
SEMICONDUCTOR DEVICE

Abstract

space vehicle would be affected in the mission by the space radiation effect.to make sure the space vehicle works reliably in the complicated enviroment,the selection and verification of the semiconductor device plays an important role.to meet the application requirement of space vehicle,the systematic architecture of third party verification is introduced as the core of reliability assurance system,the system engineering method and the principle of "divide and conquer" is used.the thesis describes the radiation effect and single event effect of semiconductor device,nondestructive and destructive single event effect is introduced ,the corresponding verification technique and risk mitigation technique is described to make sure the device works reliably in the design margin.