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Author: Mr. Maoxin Chen
China

THE TRANSIENT PULSES INDUCED BY LASER IN BIPOLAR JUNCTION TRANSISTOR

Abstract

Pulse laser testing is known to be an efficient laboratory tool for evaluating the sensitivity of integrated circuits to single event effects(SEE) induced by ioning particles, which is a contactless and a non-destructive technique providing the information about failure mechanisms and fault localization with high resolving power. This paper investigates the transient response of the aerospace level BJT to pulsed laser. We also build the device model of BJT in the Sivalco, analyzing the interaction between BJT and pulse laser. The results of pulsed laser experiment are compared with the simulation, considering factors of laser energy, spot size, and temperature.