Public Abstract

First Name:James

Middle Name:Arthur

Last Name:VanGordon

Adviser's First Name:Scott

Adviser's Last Name:Kovaleski

Co-Adviser's First Name:

Co-Adviser's Last Name:

Graduation Term:FS 2010

Department:Electrical Engineering

Degree:MS

Title:HEFNER MODEL PARAMETERS FOR POWER IGBTs UNDER PULSED POWER CONDITIONS

While the power insulated gate bipolar transistor (IGBT) is used in many applications, it is not well characterized under pulsed power conditions. This makes the IGBT difficult to model for solid state pulsed power applications. The Oziemkiewicz implementation of the Hefner model commonly used to simulate IGBTs utilizes seventeen modeling parameters that are specific to a given device. This thesis presents two sets of these seventeen parameters that correspond to two different models of power IGBTs.