Determination of dynamic parameters for HSPICE IGBT model using curve-fitting optimisation method

ABSTRACT

The two important characteristics of an IGBT, which should be considered in device modelling, are the conduction (static) and the switching (dynamic) characteristics. The conduction characteristic parameters were discussed previously (Mariun et al, 1997) and here only the dynamic parameters are presented briefly to give background before detailed development of the model is presented. The curve-fitting optimisation method available in HSPICE is used to determine the model parameters and the results are compared with laboratory test results and are found to be in good agreement.