

Compensation of High Power DMOSFET  
Self Heating Effects.

BY

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ABSTRACT.

Power MOSFETs can show increase or decrease of current with temperature, depending on whether the threshold voltages or electron velocities suffer the main effects. Mathematical models for these effects have been analysed with computer programs, and compared with experiments.

A new technique has been developed which restores the feature of nearly constant current (high output slope resistance) of intensively heated MOSFETs. Two versions are provided :- One for the conventional MOSFETs, the second for the new current sensing MOSFETs. The modifications necessary in the circuit theory, to describe the technique to be used for current-sensing devices, are discussed.