

Transistor-Limited Constant Voltage Stress of Gate Dielectrics

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A new test configuration which better approximates circuit stress conditions, the Transistor-Limited Constant Voltage stress, significantly reduces post-breakdown conduction (I_{BD}) as compared to standard Constant Voltage Stress. The smaller the current drive of the limiting transistor, the softer the breakdown. If I_{BD} of the broken dielectric is sufficiently reduced while the voltage margin of the circuit is not exceeded, circuits may continue to function even with a failed oxide.