

The apparent parasitic breakdown

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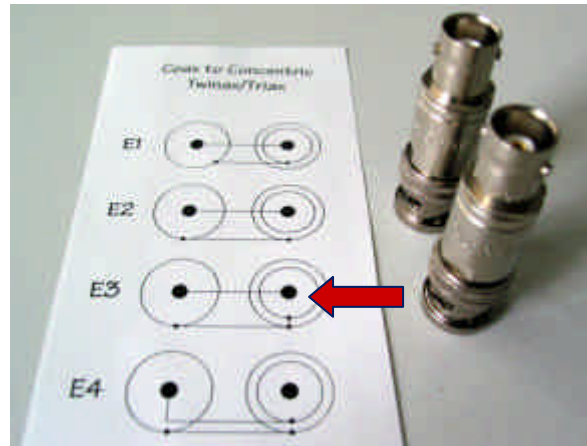
Apparent parasitic breakdown

Two Triax to BNC Adapters: Who can see the difference?



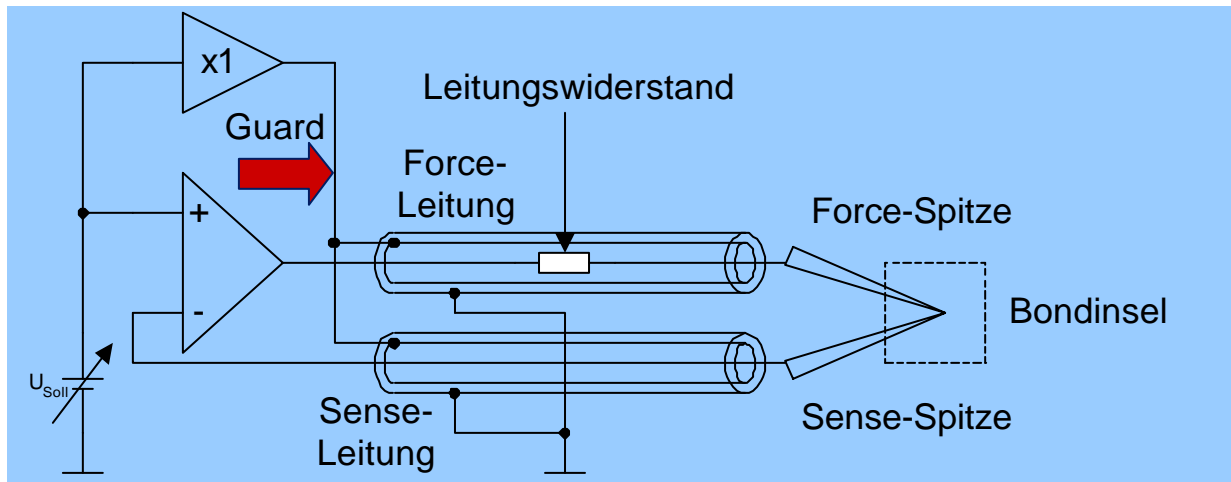
Apparent parasitic breakdown

There are different types of Triax to BNC Adapters



- Version E2: Guard is left open
- Version E3: Guard is shorted to GND

Triax: What is Guard intended for?

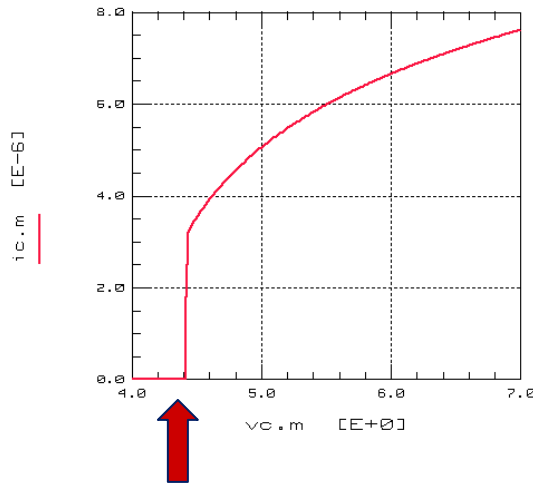


- The Guard amplifier is intended to deliver the same potential to GUARD as it is on Signal (Force / Sense)
- The goal: no potential difference between Guard and Signal results in no leakage current across the dielectric

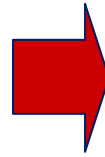
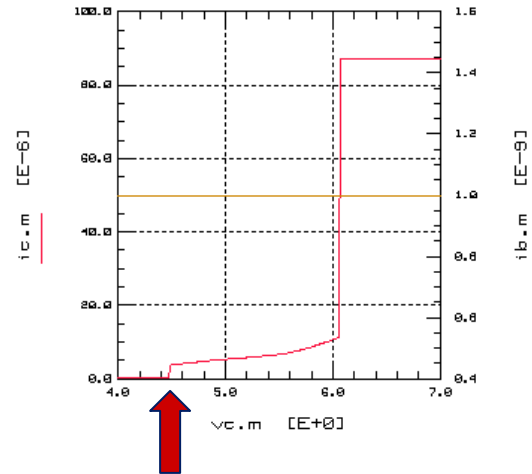
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Vce0 characteristic measured without an npn-transistor

Plot npn_meas_ac/acmf/fo_vce0/Vce0 (Oh)



Plot npn_meas_ac/acmf/fo_vce0/Vce0 (Oh)



- Using an adapter of version E3 (Guard shorted to GND) the Guard OP creates above characteristic
- During a Vce0-measurement, this characteristic is overlaid to the characteristic of the npn-transistor, pretending an apparent parasitic breakdown