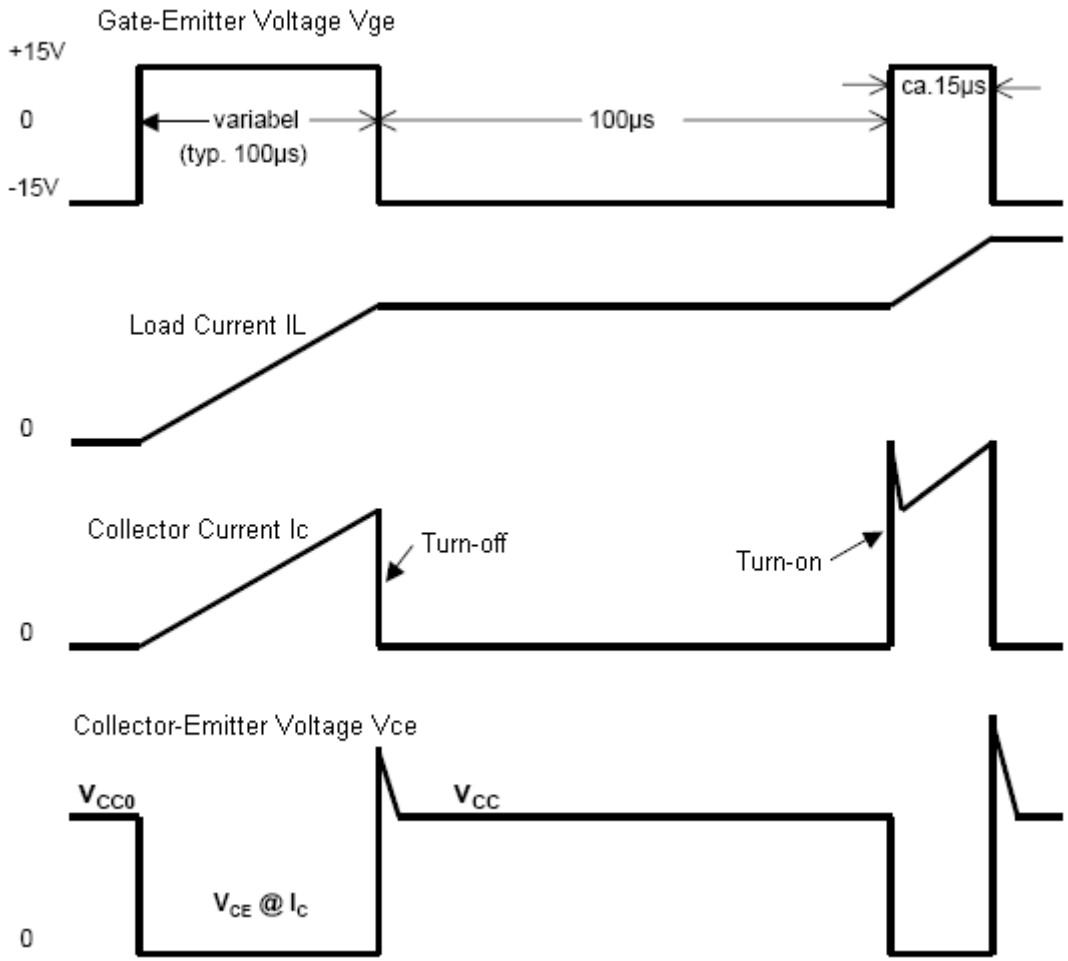
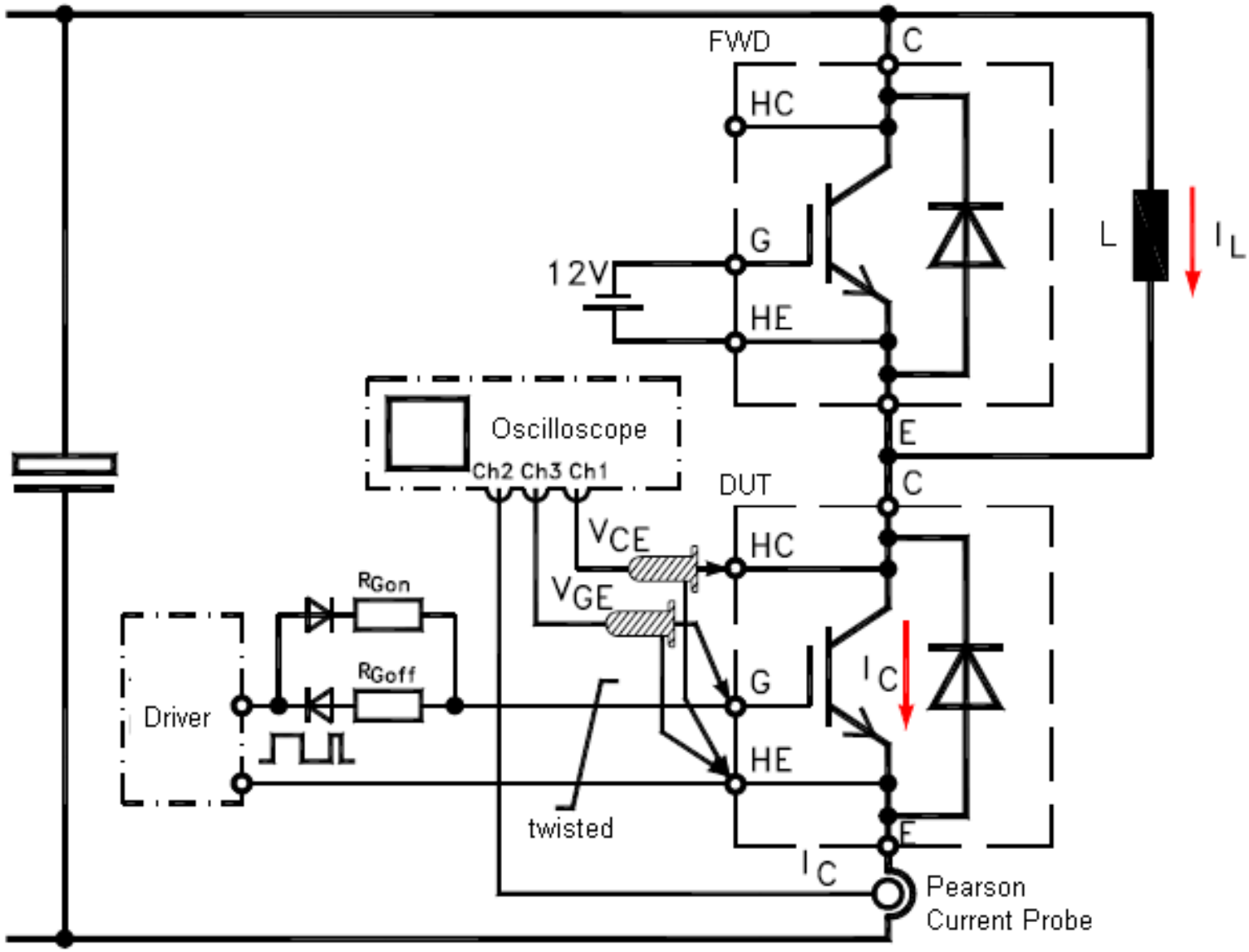
Double Pulse Test for IGBT & FWD – Principle

Double pulse test for IGBT/FWD

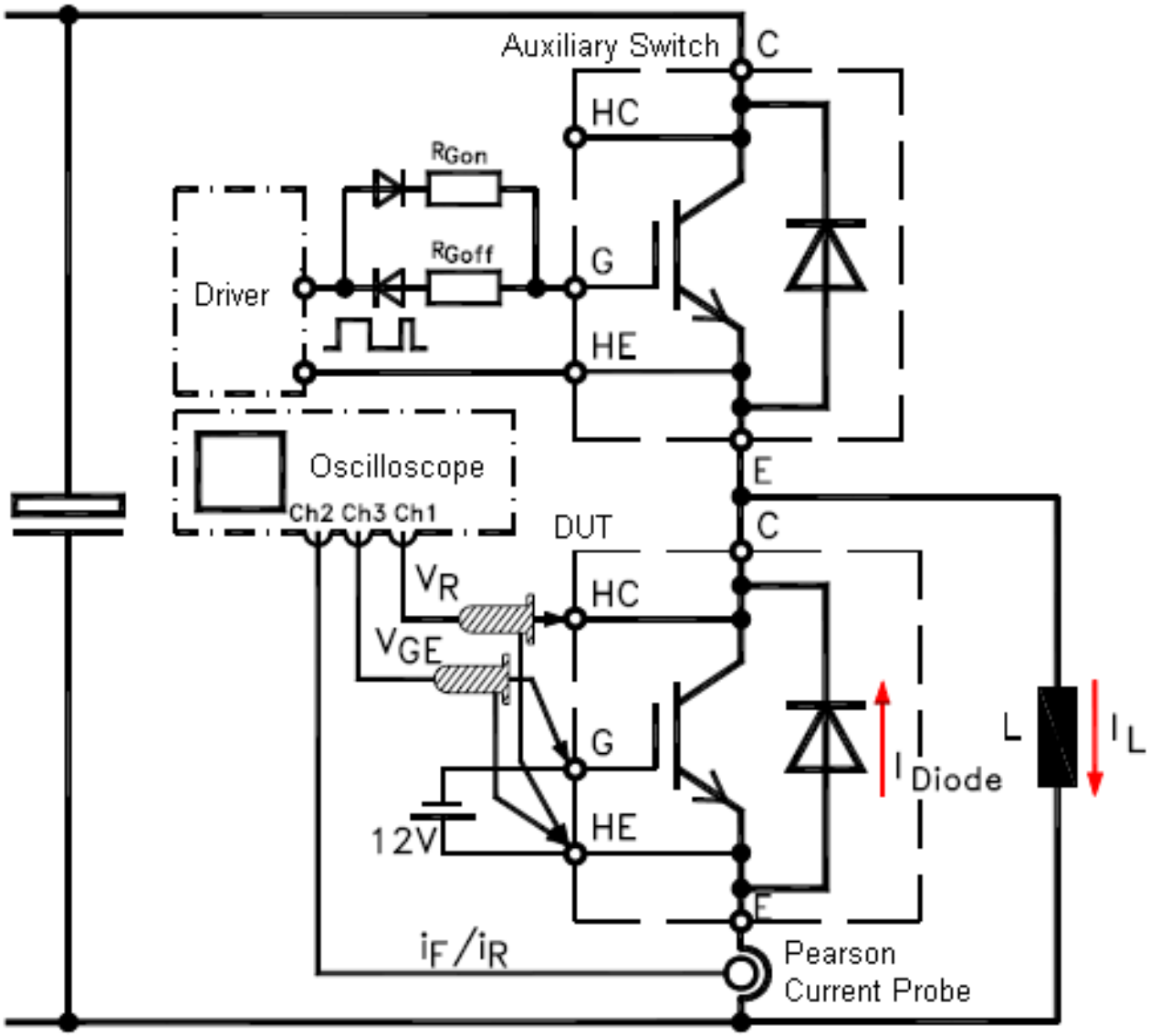
- The 1st turn-on pulse establishes desired current value (e.g. Icnom for IGBT characterization or 2xIcnom for RBSOA test) in the inductive load (inductor in the test).
- Turn-off of the 1st pulse creates current in free-wheeling diode (FWD). Due to the high load inductance and short turn-off period, the load current is almost constant in this interval.
- The 2nd turn-on pulse results in reverse recovery of the FWD hence the current overshoot in the test IGBT (like that in real applications).
- Vce overshoot at turn-off of the 2nd pulse should be kept below IGBT blocking voltage (Vces).



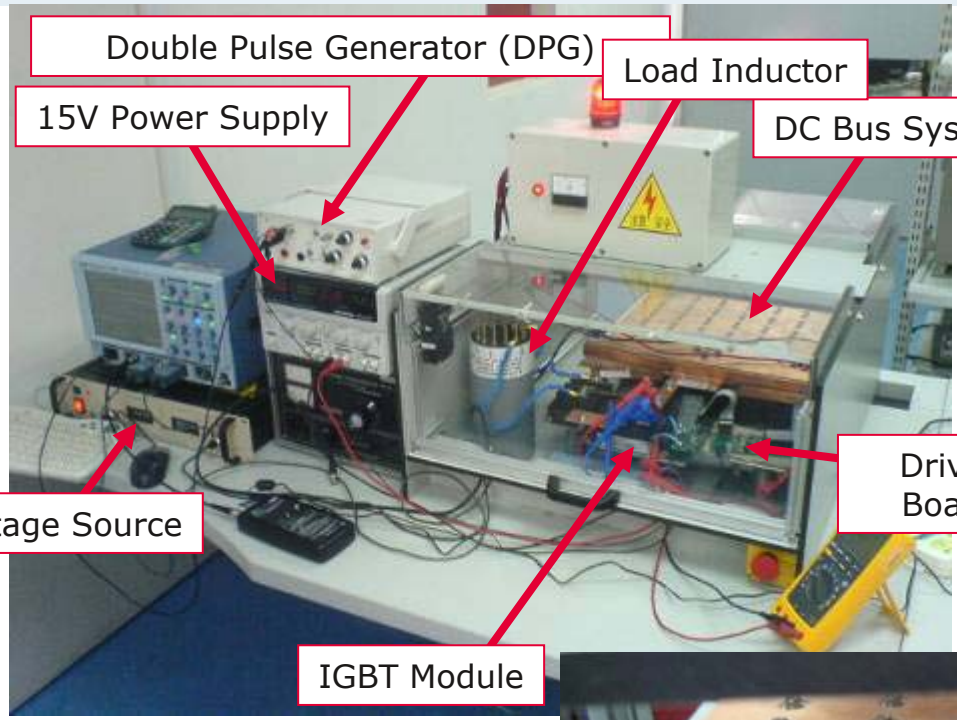
IGBT test schematic principle



FWD test principle



Dynamic Characteristics Test



Never stop thinking