

DYNAMIC CHARACTERISER

for SiC and Si Power Modules

For today's and future high voltage SiC modules.

Compact - Safe - Accurate - Modular - Easy to use



Double pulse circuit

- for characterising SiC diodes and FETs

High voltage devices

- 1.2 kV - 1.7 kV - 3.3 kV - 4.5 kV and up

For modern power modules

- current adjustable to 500 A

Flexible

- LinPak, XHP, PrimePACK, IHM, IHV, 62mm-series, EconoDUAL, etc. Max. baseplate size 180 x 250 mm

Clean switching waveforms

- very low and well defined parasitics

Accurate

- including analysis and compensation procedures

Modular and future proof

- exchangeable fixtures for new packages and modules

High temperature

- integrated heater for DUT - adjustable up to 200°C

Fast

- fast deployment and short measurement cycles

Standard and application specific

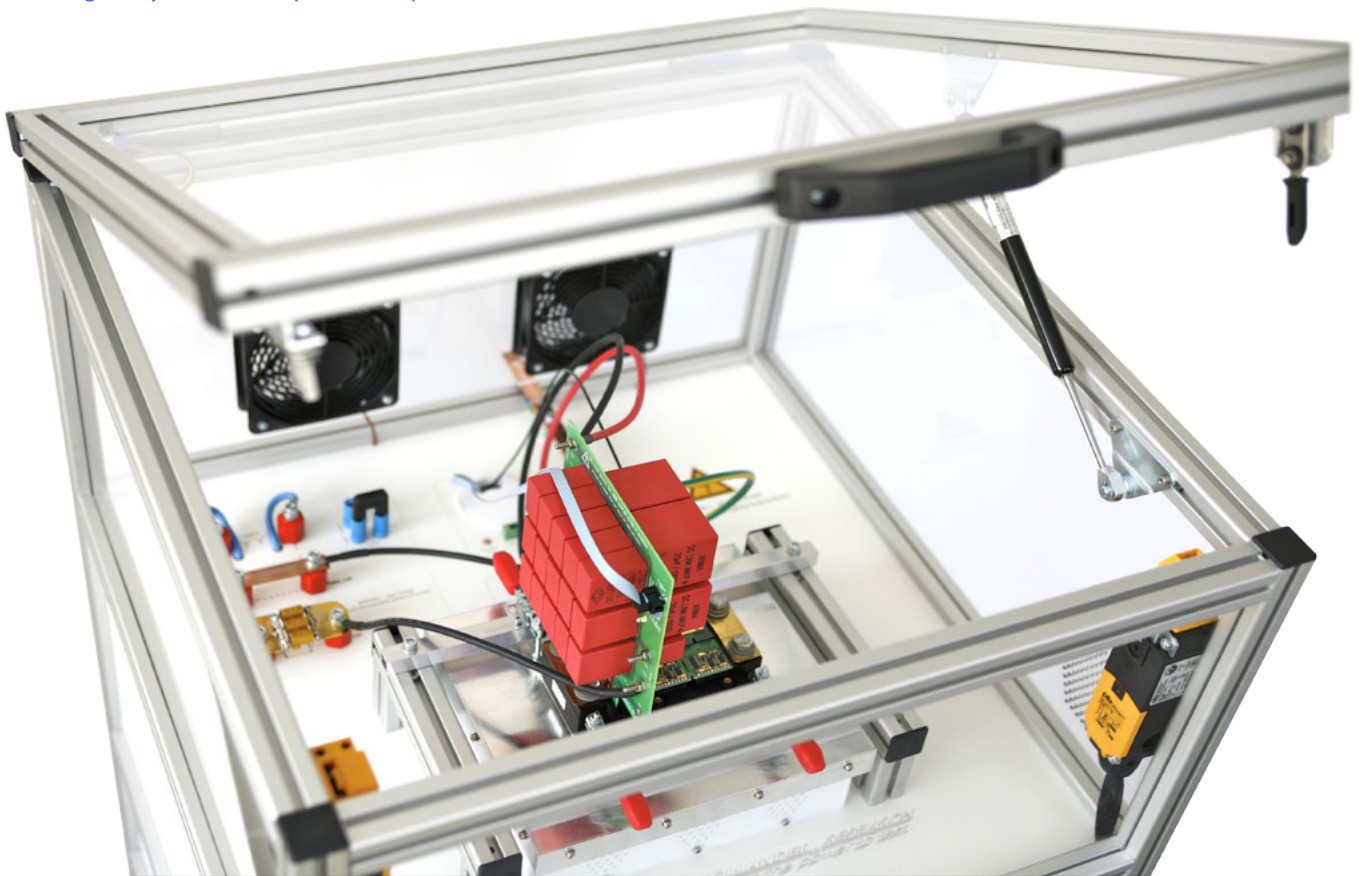
- standard or custom gate driver; adjustable parasitics to match application

Safe

- designed for IEC61010 safety standard

Compact

- floor space only 650 mm x 650 mm



The Dynamic Characteriser for SiC Power Modules is a semi-automatic system for use in research laboratory to measure the switching characteristics of Silicon and Silicon Carbide Power Modules. The system provides clean measurement results under well-defined conditions, which can easily be correlated to simulation results of the device design and of the converter design.

Switching characteristics are used to predict the actual behaviour of the SiC device in a converter. Important converter design parameters, like maximum allowed leakage inductance and parasitic capacitance and gate driver design parameters, are derived from the dynamic characteristics.

The dynamic behaviour of the SiC power module is characterized by the voltage across and current through the DUT during turn-on and turn-off switching under defined circuit conditions.

Characteristics like di/dt , du/dt , E_{on} , E_{off} , E_{rr} , I_{rr} , V_{th} , etc. as a function of the DC-link voltage, the output current, the junction temperature and gate driver settings quantify the dynamic behaviour and is input for calculations to optimize converter design.

With this system the dynamic behaviour of the SiC power module can be measured at a DC-link voltage up to 2.5 kV, a current up to 500 A and a temperature up to 200°C.

The modular system approach with exchangeable fixtures makes the system future proof for new module configurations and package styles.

Please contact LEMSYS for further details

