

IGBT Module Static Tester Product Fact Sheet

DYN-PA-19013-V1



Power Assemblies

1 General

1.1 Static tests performed	<ul style="list-style-type: none"> Collector-emitter saturation voltage (VCEsat) Gate threshold voltage (VGE(th)) Collector-emitter cut-off current (ICES) Gate-emitter leakage current (IGES) Diode forward voltage (Vf) Kelvin contact connection test (power and auxiliary terminals)
1.2 DUT capacity and compatibility	Customised Bed-of-Nails design to accommodate wide range of power modules. 1 DUT is placed on a heatplate per test to measure device characteristics.
1.3 Maximum test temperature	175°C
1.4 Temperature uniformity	± 2°C
1.5 Data logging	The test conditions and results are recorded to an industrial PC and can be exported via a USB storage device in a CSV file format. Results can be backed up to an external hard drive.
1.6 Batch reporting	Batch reports can be generated to summarise test results and pass rates for a given batch of DUTs.
1.7 Measurement techniques	Single-shot pulse

2 Electrical

2.1 Power input	380 Vac, 16 Arms, 3 ph + NE, 50/60 Hz
2.2 Maximum test current	Up to 6 kA
2.3 Maximum test voltage	Up to 10 kV

2.4 Parameter measurements	Parameter	Range	Accuracy	Resolution	Tp (ms)
	VCEsat	10 V	±0.5%	10 mV	0.3 - 4
	VGE(th)	30 V	±1%	10 mV	2 - 500
	ICES	100 mA	±1%	100 µA	10 - 500
		10 mA	±1%	10 µA	10 - 500
	IGES	1 mA	±1%	1 µA	10 - 500
		10 µA	±2%	1 nA	5 - 500
	Vf	10 V	±0.5%	10 mV	0.3 - 4
	Kelvin Contact	480 Ω	-	-	-
	Ic	6,000 A	±2%	1 A	-
	VCE	10,000 V	±2%	1 V	-
	Tc	175°C	±2%	1°C	-

3	Mechanical	
3.1	Dimensions (W x D x H)	1400 x 800 x 1760 mm
3.2	Weight	Approx. 400 kg
3.3	Pressurised air supply	65 psi

4	Operating Conditions	
4.1	Operating location	Indoor use only
4.2	Earthing requirement	Class I Equipment with Earthed Conductor
4.3	Operational temperature	25°C ± 10°C
4.4	Storage temperature	25°C ± 35°C
4.5	Relative humidity	10% to 80%
4.6	Over voltage category	CAT II (laboratory)
4.7	Pollution grade	2 (non-conductive pollution)

5	Safety Features	
5.1	Smoke alarm	Local smoke alarm is fitted to shut down the test equipment in the event of any fumes generated by heat.
5.2	Safety Interlocks	Safety interlocks are fitted to the side panels and doors, high voltage supply is disabled and capacitor banks are discharged when interlocks open. The DUT drawers and doors are locked during testing to prevent access.
5.3	Over-temperature protection	An alarm or trip will be made in the event of the DUT heatplate exceeding a set temperature.
5.4	E-stop push button	E-stop button is fitted to disable the high voltage supply and discharge capacitor banks in the case of an emergency.
5.5	Visible operation indicators	Visible operation indicators are activated during test to show the tester status.

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