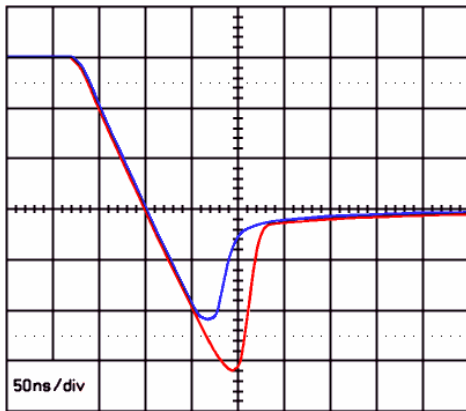


# Diode Measurement System



- Dynamic parameter measurement
- PC remote control
- Modular design
- Recovery characteristics
- Turn-ON characteristics
- Range from 0.1 to 100 A



Jedec: trr  
Recovery: trr, Irr, QRA  
Turn-ON: tfr, Vf, Vfp

The power semiconductor test equipment company



## GENERAL DESCRIPTION

The LEMSYS DMS equipment has been modularly designed to enable it to measure different parameters with a single rack.

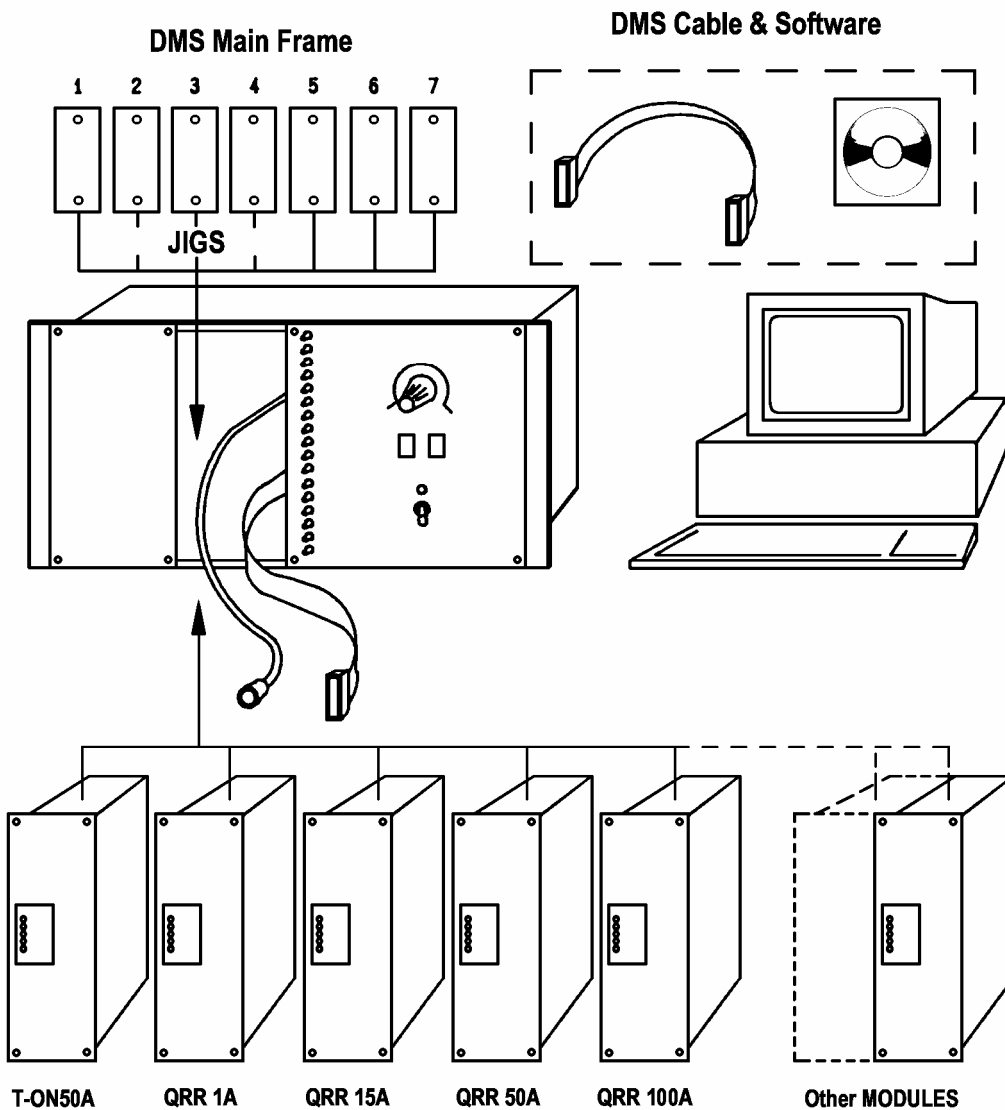
The main frame is made to be controlled by a Windows computer (PC) connected via the RS 232 serial bus. User-friendly software with automatic module detection enables flexibility and simplicity for setting the test conditions, performing test and storing results.

A set of plug-in modules is available to achieve the measurement of most dynamic switching parameters of the diodes.

Special modules are made on request according to customer's specifications.

The DMS is especially useful for component qualification, characterization and can also be used as a maintenance unit or in production.

System synoptic:



## CHARACTERISTICS

Power supply:	230 V 50 / 60 Hz 320 VA (115 V on request)
Function:	Supply the signals and the necessary supply voltages for the operation of the available DMS modules and heating unit. Provide the location for one power module and one heating unit.
Available DMS modules:	T-ON 50 A QRR 1 A QRR 15 A QRR 50 A (QRR 50 A - 01) (QRR 50 A - 02) (QRR 50 A - 03) QRR 100 A (QRR 100A - 02)
Optional Heating unit:	BC 01  This list can be extended to other modules to be defined later on.
Features:	Internal power supply connections Cables for the connection to one of the above listed modules The module is installed inside the rack RS 232 output for PC Windows XP remote control
Front panel controls:	14 visualized digital controls (push buttons and LED's) 1 analog control 0 - 100 % (potentiometer) 2 test buttons (Temporary / Continuous) ON / OFF switch and ON lamp Supply OK LED Remote LED
Conditions of use:	Working temperature 25 °C ± 10 °C Storage temperature 25 °C ± 45 °C Relative humidity 10 - 80 % (non condensing) Duty factor 100 % Environment: class 10000 clean room compatible
Supplied accessories:	1 set of spare parts 1 set of standard jigs
Software:	The various measurements, which can be carried out with the equipment, are available only with the software option.  The software is designed for PC Windows XP computer equipped with a RS 232 interface.  The DMS Main Frame associated with a DMS module can be used in manual mode as a signal generator for diode testing. In such case, the measurements are made with an external oscilloscope (not included).
External dimensions:	Width approx. 450 mm Height approx. 285 mm Depth approx. 395 mm + 130 mm for protection lid Weight approx. 19 kg with power module

**Modules available:**

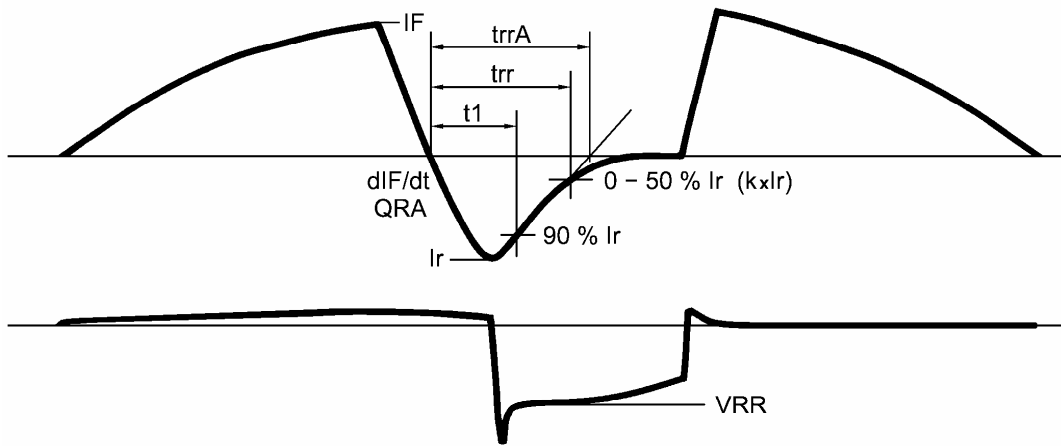
See detailed module's datasheets for more information.

<b>Turn-OFF modules</b>			
Type	Current	Voltage	Tests
<b>DMS QRR 1 A</b>	IF = 0.1 – 2 A dIF/dt = 10 – 100 A/μs IRR = 0.1 – 1.5 A	VRR = 30 V	trr: 10ns – 4 μs
<b>DMS QRR 15 A</b>	IF = 0.2 – 15 A dIF/dt = 10 – 150 A/μs	VRR = 30 / 50 / 100 / 200 / 400 V	trr: 10ns – 4 μs Ir: 0.2 – 10 A TrrA: 10 ns – 4 μs QrrA: 1 nC – 20 μC
<b>DMS QRR 50 A</b>	IF = 1 – 50 A dIF/dt = 20 – 300 A/μs	VRR = 30 / 50 / 100 / 200 / 400 V	trr: 10ns – 4 μs Ir: 0.8 – 30 A TrrA: 10 ns – 4 μs QrrA: 1 nC – 20 μC
<b>DMS QRR 50 A - 01</b>	IF = 1 – 50 A dIF/dt = 20 – 300 A/μs	VRR = 5 / 10 / 15 / 20 / 400 V	trr: 10ns – 4 μs Ir: 0.8 – 30 A TrrA: 10 ns – 4 μs QrrA: 1 nC – 20 μC
<b>DMS QRR 50 A - 02</b>	IF = 1 – 50 A dIF/dt = 20 – 500 A/μs	VRR = 30 / 50 / 100 / 200 / 400 V	trr: 10ns – 4 μs Ir: 0.8 – 30 A TrrA: 10 ns – 4 μs QrrA: 1 nC – 20 μC
<b>DMS QRR 50 A - 03</b>	IF = 1 – 50 A dIF/dt = 20 – 300 A/μs	VRR = 5 / 7 / 15 / 20 / 400 V	trr: 10ns – 4 μs Ir: 0.8 – 30 A TrrA: 10 ns – 4 μs QrrA: 1 nC – 20 μC
<b>DMS QRR 100 A</b>	IF = 20 – 100 A dIF/dt = 100 – 1000 A/μs	VRR = 100 / 200 / 400 / 600 / 1000 V	trr: 10ns – 4 μs Ir: 2 – 60 A TrrA: 10 ns – 4 μs QrrA: 1 nC – 50 μC
<b>DMS QRR 100 A - 02</b>	IF = 20 – 100 A dIF/dt = 100 – 1000 A/μs	VRR = 20 / 30 / 100 / 400 / 1000 V	trr: 10ns – 4 μs Ir: 2 – 60 A TrrA: 10 ns – 4 μs QrrA: 1 nC – 50 μC

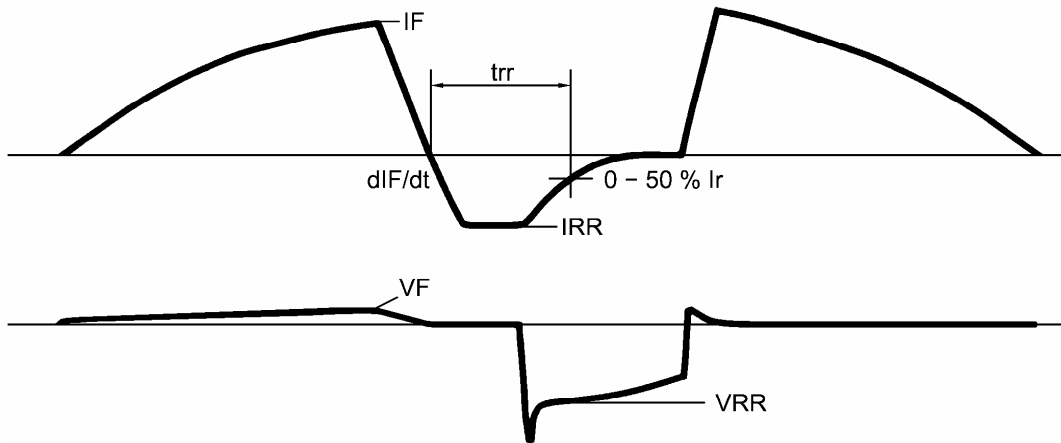
<b>Turn-ON module</b>			
Type	Current	Voltage	Tests
<b>DMS T-ON 50 A</b>	IF = 1 – 50 A tr = 0.1 – 3.2 μs	N/A	tfr: 10ns – 10 μs Vfp: 0.5 – 100 V Vf: 0 – 10 V

## Waveforms

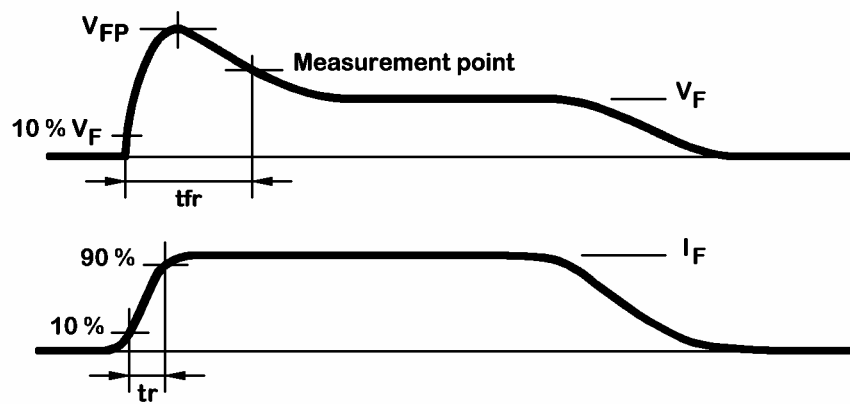
### Turn-OFF



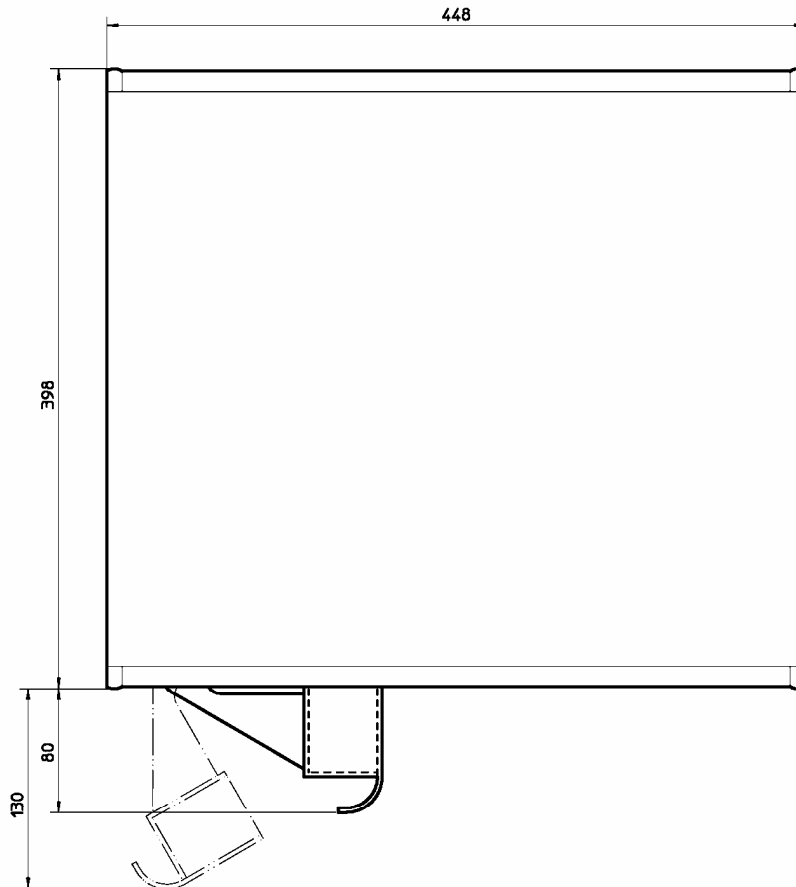
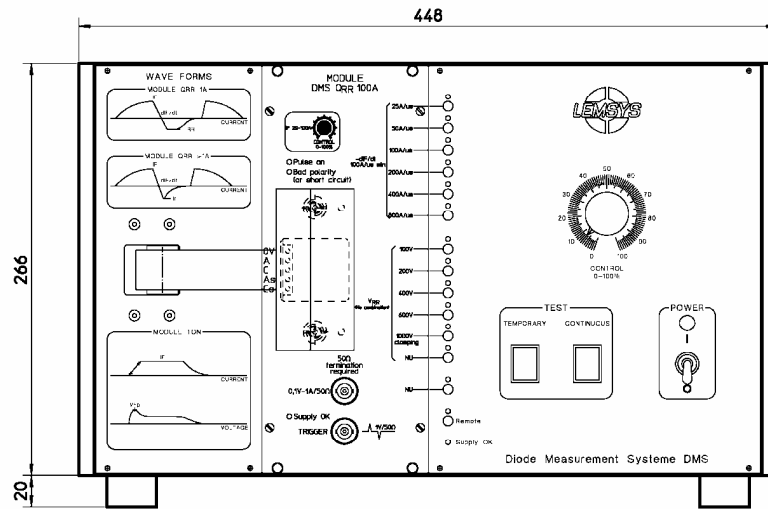
### Turn-OFF QRR 1A



### Turn-ON



# OVERALL DIMENSIONS



Note:  
LEMSYS SA reserves the right to carry out modifications on its products without any previous notice

**LEMSYS SA**

18, chemin des Aulx • CH-1228 Plan-Les-Ouates • Switzerland  
Tel: +41 22 706 10 60 • Fax: +41 22 706 10 51 • E-mail: info@lemsys.com • http://www.lemsys.com