

# COREMA – ER Specifications

## Mechanical Setup

### Components

Ceramic heating stage	pecially developed for COREMA-VT
Built-in capacitive sensor	high temperature compatible development
Light tight measurement box	
Exhaust ventilator	computer and sample temperature controlled

### Specifications

Sample loading	manual
Sample thickness	250 – 1000 $\mu\text{m}$
Wafer diameter	2" to 100 mm
Temperature range	RT to 400 $^{\circ}\text{C}$
Heating speed	2 $^{\circ}\text{C/s}$ max
Forced air cooling	ca. 10 $^{\circ}\text{C/min}$

## Measurement System

### Components

Charge amplifier	Specially developed
Switch connecting WT electronics (add-on system)	software driven

### Specifications

Sensor	6 mm diameter
Lateral resolution	8 mm
Minimum distance sensor center to edge of sample	4 mm
Epilayer resistance range	$1 \times 10^6 - 5 \times 10^{12}$ Ohm
Epilayer resistivity range	Epilayer resistance range x epilayer thickness (in cm)
Substrate resistivity	$> 10 \rho_e (ds/de)$ $\rho_e$ = epilayer resistivity ds = substrate thickness de = epilayer thickness
Repeatability	$1 \times 10^6 - 1 \times 10^9 \Omega$ 1% $1 \times 10^9 - 1 \times 10^{11} \Omega$ 5% $1 \times 10^{11} - 5 \times 10^{12} \Omega$ 10%

## Measurement Control

### Components

Computer	Pentium PC with CD-RW and NIC – Microsoft Windows
Software	Custom Windows based measurement control and evaluation program

### Specifications

Operation	User-friendly menu-driven selection and control of measurement routines
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## Integrated Heating Stage (optional)

*Components*

Heater

specially developed high performance SiN heating ceramic plate

Power supply

programmable

Shielding

Light-tight cover

*Specifications*

Control

Selectable heating and cooling ramps

Temperature range

RT to 400 °C

Heating speed

2 °C/s max

Forced air cooling

ca. 10 °C/min

Version 2006/1