

RTP-600S

Rapid Thermal Processing System



The RTP-600S System is an Advanced Benchtop Rapid Thermal Processing System with Multi-Gas Capabilities.

The RTP-600S is a versatile benchtop RTP System with Multi-Gas capability featuring up to 6 Mass Flow Controlled gas channels. This compact system includes a built-in PC compatible computer with an integrated process control system with real time graphics display, recipe editing and validation, and real-time process data acquisition, display, and analysis, and comprehensive calibration and diagnostic functions, including lamp calibration and monitoring.

Temperature Measurement and Control

An advanced control system enables precise wafer temperature control with typical repeatability of $\pm 2^\circ\text{C}$ from set point. Wafer temperature (350-1300 $^\circ\text{C}$) is monitored by a dual color pyrometer or type K thermocouple. Automated calibration routines provide simple user calibration of the temperature measurement system. These features provide a high level of process uniformity and repeatability.

Features

- Highly Uniform Lamp Array with Accurate Lamp Control and Monitoring
- Quartz Process Chamber, Capable of Handling Inert and Reactive Gases
- Closed-Loop Temperature Control with Temperature Control Stability of $\pm 2^\circ\text{C}$ from Setpoint
- Dual Color Pyrometer with Auto-Calibration Feature
- Up to 6 Channels MFC Control
- Controlled Ramp-Up and Ramp-Down Rate 1-200 $^\circ\text{C}/\text{sec}$.

Software Features

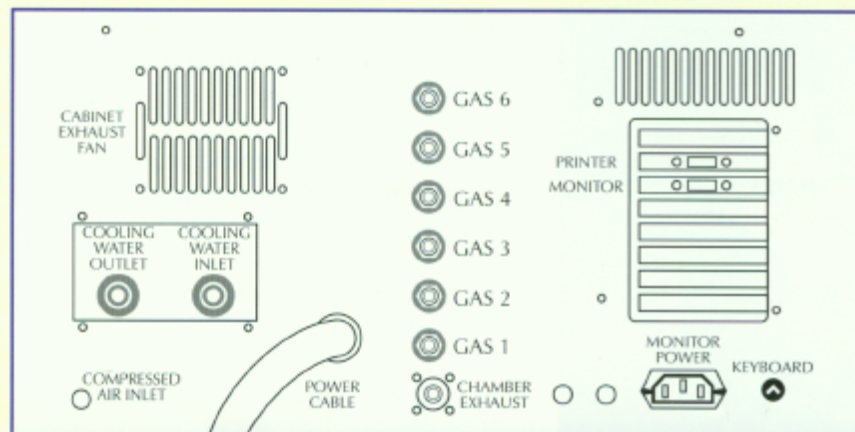
- Real-Time Process Control and Graphics Display
- Real-Time Process Data Collection (100 msec time sampling)
- Recipe Editor with Spreadsheet Format Data entry
- Recipe Validation
- Gas Compatibility Safety Checking During Recipe Creation
- Process Data File Management, Display, and Analysis
- System Diagnostics and Configuration Utilities



The RTP-600S System is an Advanced Benchtop Rapid Thermal Processing System with Multi-Gas Capabilities for Si, Ge, Si/Ge, GaAs, InP, and other semiconductor materials.

RTP-600S Utility Panel Connections

All the utilities are connected at the rear utility panel of the system. **UTILITIES**



Electrical: 208/380 VAC, Phase +Neutral, +Ground, 60 A/Phase, 50/60 Hz

Cooling Water: 2.5 GPM 60 PSI Inlet Pressure, 30 PSI Maximum return back Pressure, 60°F Maximum Inlet Temperature

Compressed Air: 10 CFM @ 80 PSI Clean Dry Air

Cabinet Exhaust: 4" Diameter Duct

Process Gas Inlet: VCR-4 Male Connection
Process Gas Outlet: VCR-8 Male Connection

SYSTEM DIMENSIONS:

RTP Oven (including computer) 14" (350 mm) H x 24" (610 mm) W x 23" (580 mm) D Weight 150 lbs (68 kg) SVGA Monitor 15.5" (400 mm) H x 14" (360 mm) W x 15.5" (400 mm) D Weight 45 lbs (21 kg)

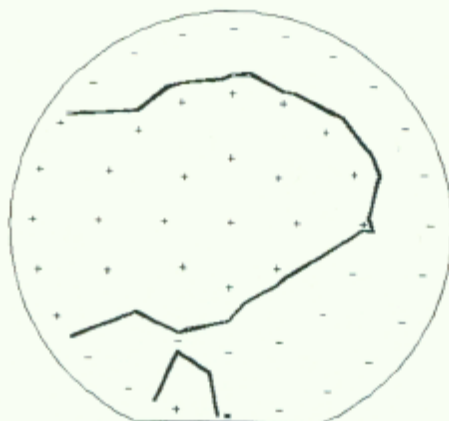
System Specifications

- Wafer Size: 2"-6"
- Temperature Range: 250-1300 °C
- Temperature Uniformity: +/- 2 °C
- Temperature Ramp Rate: 1-200 °C/sec
- Temperature Control Repeatability: +/- 2 °C
- Temperature Accuracy: +/- 2 °C

Process Specifications

- Sheet Resistivity Standard Deviation (Low and Medium Dose Implants): <1% (3 sigma)
- Sheet Resistivity Standard Deviation (High Dose Implants): <1.5% (3 sigma)
- Oxide Thickness Uniformity (50-250 Å): <3%

Ion Implant Sheet Resistivity Uniformity



Wafer ID:	RTA Control 1
Lot ID:	B-1.8E15-60
Operator:	AL
Process:	1100/10 RTA
Process Date:	January 7, 2000
Process Time:	15:53
Equipment:	9-561 (XR Leap)
Wafer Diam:	125.00mm / 4.92 in.
Test Diam:	115.00mm / 4.53 in.
Template Map:	49 Site
# Good/Sites:	48/49
Contour Display:	Standard
Interval:	1.000%
Minimum:	47.597
Maximum:	47.880
Range:	2.8371e-001
Mean:	47.760
STD Dev:	75.03 m / 0.157%



Modular
Process
Technology
Corp.

Tel: (408) 325-8640

Fax: (408) 325-8649

E-mail:
info@modularpro.com

Website:
www.modularpro.com

2233 Paragon Drive
San Jose, California 95131