

Rapid Thermal Processing (RTP)

The rapid thermal processor has the capability to run the following processes (a) Rapid thermal annealing of compound semiconductors (b) Rapid Thermal Oxidation (RTO) (c) Rapid Thermal Nitridation (RTN)

Model: ANNEALSYS AS-ONE 150

Specifications:

- **Temperature range:** RT to 1100°C
- Max Ramp Rate 150°C/s (for Si)
40°C/s (for Susceptor)
- Max. Safe Ramp Rate (for Si processing) -
100°C/s
- Max. Safe Ramp Rate (for III-V processing using
Graphite Susceptor) - 25°C/s
- Gas mixing capability with mass flow controllers
- **Vacuum range:** Atmosphere approx to 1 mBar

Applications:

- RTA (Rapid Thermal Annealin)
- RTO (Rapid Thermal Oxidation)
- Diffusion
- Compound semiconductor annealing
- Nitridation, Silicidation
- Crystallization and Densification

Process Capabilities:

- **Substrates used:** Silicon, III-V (GaAs, GaN on sapphire)
- **Substrates can be used but NOT available :**
any III-V semiconductor
- **Substrate size:** Small pieces, from 2" up to 6"
wafers
- **Substrate temperature :** RT to 1100°C (max)
- **Gases used :** Ar, Process N₂, O₂, and NH₃
- **Chamber base vacuum :** Atmosphere approx
to 1 mBar (presently best base vacuum
available with Rotary Pump connected is only 1
mBar)

