2.2 PERFORMANCE SPECIFICATIONS

The system specifications below may change as different models are introduced or as design enhancements are implemented.

- Recommended Steady-State Temperature Range: 400-1200° C.
- Steady-State Temperature Stability: ± 7° C.
- Temperature Monitoring Mechanisms: Standard pyrometer (used above 800° C), an optional Extended Range Pyrometer (the ERP is used above 400°C), and a thermocouple (used below 800° C).
- Heating Rate: 1-200° C per second, user-controllable.
- Cooling Rate: Temperature dependent; max 150° C per second.
- Maximum Non-uniformity:

  Radiant Flux: ±0.25%

  Sheet resistivity: *

  ≤2% (Dose Monitoring Units)

  ≤ 1.35% (R&D Units)

  * Post-anneal sheet resistivity measured on a 150mm wafer annealed at 1100° C for 10 seconds. R&D models optimized for slip control.

  Implant: As 1E16 50 KeV with implant uniformity ≤0.3%
- Lamp Life: Unconditionally guaranteed for three years.
- Steady State Time: 1-9999 sec. (1-600 sec. recommended)
- Wafer Sizes for the HEATPULSE 610: 2", 3", 4", 5" and 6".
  Wafer Sizes for the HEATPULSE 410: 2", 3", and 4".
- Process Gases: The HEATPULSE system delivers one non-corrosive process gas with manually controlled flow. When used with the GHS-01 Multigas-Handling Subsystem option, the HEATPULSE can deliver multiple corrosive and/or non-corrosive process gases.

2.3 SYSTEM OPTIONS AND ACCESSORIES

Following is a partial list of options:

- Periodic software updates.
- Research wafer tray, 2", 3", 4", 5" trays, GaAs tray, susceptors. (Note: The 5" tray is not available for the HEATPULSE 410.)
- GHS-01 Multigas-Handling system.

The PC-computer control software program described in this document is called pCat. It consists of the following items:

- pCat System Software diskette (3.5" and 5.25" diskettes)
- 24-Bit Parallel Digital I/O PC board
- 5-Channel Counter/Timer PC board
- Analog/Digital Input PC board
- Power Cable (1)
- Interface Harnesses (5)
- BNC T-Connector
- Voltage Divider Box Assembly
- Interface box

To use the PC Control software, the host PC must have the following hardware components and DOS capabilities:

- IBM PC/AT or compatible computer
- EGA color monitor and EGA adapter card
- Hard disk (20 Mb hard disk is recommended)
- 640KB RAM Memory
- 360KB or 1.2 MB floppy disk drive (5.25" or 3.5")
- DOS software Version 3.2 or above installed on the hard disk