



PulseForge®
Digital Thermal Processing™

PulseForge® Debonding Semi-Automated Platform PD300SA



PulseForge semi-automated photonic debonding solution enables debonding through the use of a high-intensity flash lamp and a proprietary light absorbing layer coated carrier.

- Complete automation of the stage movement and synchronization with flash lamp processing
- Storable process flow protocol
- Digitally adjustable process conditions
- Accommodates up to 300 mm wafers on tape frame
- Interchangeable fixtures allow quick reconfiguration for different wafer sizes
- Ability to debond panels of up to 400 mm x 400 mm
- Capable of processing up to 20 wafers per hour
- Secured and interlock- controlled light shielding
- Patented water cooling to prevent heat build- up



PulseForge[®] PD300SA

Configuration

- Flash head that includes
 - 150 mm x 75 mm illumination area per pulse
 - Reflector housing
 - Water cooled flash lamp
 - Lamp change capability
 - Integrated protective window
 - Window removal mechanism
 - Adjustable air movement across window
- Controls rack containing
 - Capacitor banks
 - Power supply
 - Control module
 - Integrated display and controls
 - Keyboard
 - Integrated DI water chiller
- Optional site water connections for high duty cycle applications
- Umbilical connection between control rack and wafer handler for independent movement and up to 2 m distance in setup
- Accessible exhaust port for process chamber
- Photodiode processor box and software signal for pulse shape feedback
- Compressed air hose
- Standalone NIST-traceable integrated bolometer for pulse energy measurements
- Standard thermal simulation software – SimPulse[®]
- Standard 1 year warranty
- Optional extended warranty and service agreements are available upon request

Safety

- CE compliant
- Complete light shielding
- On-screen status indicators
- Temperature indicators on critical components
- Optional seismic feet

Parts Handling

PD300SA is configured to process up to 300 mm diameter standard wafers or up to 400 mm x 400 mm panels

- Configurable for 300mm, 250 mm, 200 mm and 150 mm standard wafer sizes¹
- Manual load and unload of the wafer pairs
- Fully automated x-y stage to eliminate any handling of wafer during processing
- Vacuum enabled sample stage for processing to reduce movement of parts
- Adjustable stage height to accommodate different thickness device structures

Flash Head Radiative Performance

Single Pulse illumination area	112 cm ²
Peak incident power	40 kW/cm ²
Maximum single pulse energy	70 J/cm ²
Maximum average power output	15 W/cm ²
Exposure uniformity	> 95%

Facility Requirements

Electric supply	Required
200 V – 240 V (-US)	3 Ø, 45 A
380 V – 420 V (-EU)	3 Ø, 25 A
Dry compressed air	
Pressure	200 – 1400 kPa
Flow rate	140 standard LPM
Site cooling water	Optional
Temperature	15 – 20C
Flow rate	25 LPM
Exhaust connection	75 mm (3") connection
Flow rate	Up to 500 cfm

Manufacturer Information

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¹ Smaller wafer sizes can be handled upon request.