

## Customized Solutions for Rapid Photonic Processing

Heraeus can design and supply customized solutions for drying, sintering and rapid thermal processing.

### Features

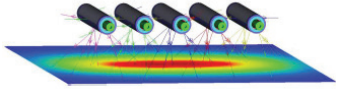
- UV to IR spectrum
- High peak power pulses - Megawatt/cm<sup>2</sup> (MW)
- Short pulse durations - microsecond (us)
- Fast repetition rates - kilohertz (kHz)
- Instant On / Off cycle
- No temperature build up - high temperature processing on low temperature substrates
- Integrated energy monitor
- Easy lamp replacement
- Integrated QRC© reflector for optimum energy delivery
- High throughput
- Stackable optical modules allow larger exposure areas
- Flexible operating software
- Ease of integration into external systems
- Non-toxic (no Hg)

### Application areas

- Sintering of Metal Oxides
- Rapid Thermal Processing (RTP)
- Flash Lamp Annealing (FLA)
- Photovoltaic cell / module testing
- Curing
- Disinfection
- Semiconductor processing

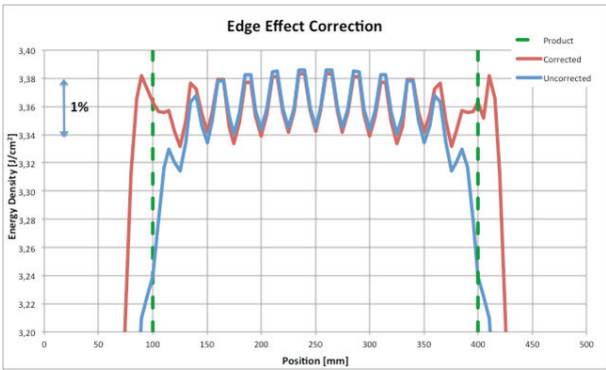
## Importance of homogeneity

- A change of 10% in energy density may easily change the resistance by a factor of 2 or more
- Heraeus has developed and calibrated its own software tool, with instant results to design a module (lamp array) for homogeneous energy distribution over your product



## Multiple pulses, pulse forming, needs a customized, sophisticated power supply

- Controlling and shaping the electrical pulse delivery of the flash lamp allows improved process optimization
- A pre-drying with lower pulse energy or continuous infrared followed by higher pulse energy flashes, often leads to better process performance and sintering



A unique industry combination of flash lamp Technology, system design, power delivery expertise and energy density homogeneity prediction, puts Heraeus Noblelight Arc and Flash in an ideal position to offer you the most efficient customized solution for your Rapid Thermal Processing requirements.

In addition, Heraeus can offer customized infrared solutions, as well as conductive polymer technology and Silver paste resonates for low temperature applications. Contact our team to discuss your requirements!

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