TWO-BEAM LASER ANNEALING WITH IMPROVED TEMPERATURE PERFORMANCE

ABSTRACT

Systems and methods for performing laser annealing with reduced wafer surface temperature variations during the laser annealing process are disclosed. The systems and methods include annealing the wafer surface with first and second laser beams that represent preheat and anneal laser beams having respective first and second intensities. The preheat laser beam brings the wafer surface temperate close to the annealing temperature and the anneal laser beam brings the wafer surface temperature up to the annealing temperature. Use of reflectivity maps of the wafer surface at the preheat and anneal wavelengths can be used to ensure good anneal temperature uniformity.

Representative Drawing: FIG.4A