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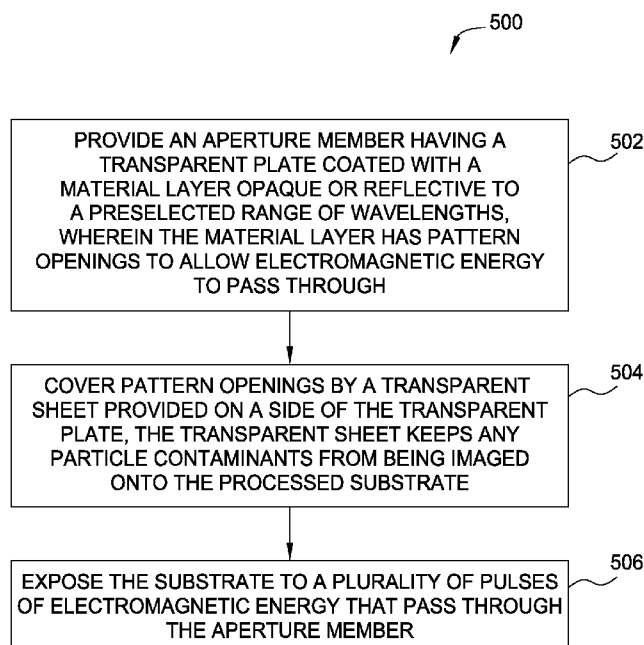
(54) **Title:** APPARATUS AND METHOD TO REDUCE PARTICLES IN ADVANCE ANNEAL PROCESS

FIG. 5

(57) **Abstract:** Embodiments of the invention generally relate to apparatus and methods of thermal processing of semiconductor substrates using a pellicle to eliminate contamination of an aperture member. The aperture member is disposed between an energy source and a substrate to be processed. The pellicle may be a thin piece of membrane that is substantially transparent to selected forms of energy, such as pulses of electromagnetic energy from a laser that emits radiation at one or more appropriate wavelengths for a desired period of time. In one embodiment, the pellicle is mounted at a predetermined distance from the aperture member and covering pattern openings (i.e., apertures) formed on the aperture member such that any particle contaminants that may land on the aperture member will land on the pellicle. The pellicle keeps particle contaminants out of focus in the final energy field, thereby preventing particle contaminants from being imaged onto the processed substrate.



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