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(54) Title: PRE-METAL DIELECTRIC RAPID THERMAL PROCESSING FOR SUB-MICRON TECHNOLOGY

(57) Abstract: A system and process is disclosed for rapidly heating semiconductor wafers coated with a highly reflective material on either the whole or in a patterned area. The wafers are heated in a thermal processing chamber by a plurality of lamps. In order for the wafer coated with the highly reflective material to more rapidly increase in temperature with lower power intensity, a shield member is placed in between the wafer and the plurality of lamps. The shield member is made from a high emissivity material, such as ceramic, that increases in temperature when exposed to light energy. Once heated, the shield member then in turn heats the semiconductor wafer with higher uniformity. In one embodiment, the shield member can also be used to determine the temperature of the wafer as it is heated.