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(71) Applicant: STEAG RTP SYSTEMS, INC. [US/US]; 4425 Fortran Drive, San Jose, CA 95134-2300 (US).			
(72) Inventors: THIAKUR, Randhir; 5261 Apennines Circle, San Jose, CA 95138 (US). TAY, Sing, Pin; 45970 Tissiack Place, Fremont, CA 94539 (US). HU, Yao, Zhi; 2576 Lady Palm Court, San Jose, CA 95133 (US).			

(54) Title: METHOD FOR DETERMINING THE TEMPERATURE IN A THERMAL PROCESSING CHAMBER

(57) Abstract

A system and method for determining the temperature of substrates in a thermal processing chamber in the presence of either an oxidizing atmosphere or a reducing atmosphere is disclosed. Specifically, temperature determinations made in accordance with the present invention are generally for calibrating other temperature sensing devices that may be used in conjunction with the thermal processing chamber. The method of the present invention is generally directed to heating a substrate containing a reactive coating within a thermal processing chamber in an oxidizing atmosphere or reducing atmosphere. As the wafer is heated, the reactive coating reacts with gases contained within the chamber based upon the temperature to which the substrate is exposed. After heated, the thickness of any coating that is formed on the substrate is then measured for determining the temperature to which the substrate was heated. This information can then be used to calibrate other temperature sensing devices, such as thermocouples and pyrometers.

