

ABSTRACT OF THE DISCLOSURE**PLASMA PROCESSING APPARATUS AND COMPONENT THEREOF INCLUDING
AN OPTICAL FIBER FOR DETERMINING A TEMPERATURE THEREOF**

A plasma processing apparatus for processing semiconductor substrates comprises a plasma processing chamber in which a semiconductor substrate is processed. A process gas source is in fluid communication with the plasma processing chamber and is adapted to supply a process gas into the plasma processing chamber. A RF energy source is adapted to energize the process gas into a plasma state in the plasma processing chamber. Process gas and byproducts of the plasma processing are exhausted from the plasma processing chamber through a vacuum port. At least one component of the plasma processing apparatus comprises a laterally extending optical fiber beneath a plasma exposed surface of the component wherein spatial temperature measurements of the surface are desired to be taken, and a temperature monitoring arrangement coupled to the optical fiber so as to monitor temperatures at different locations along the optical fiber.

FIG. 1