

**TEMPERATURE MEASUREMENT DEVICE, TEMPERATURE MEASUREMENT
METHOD, AND TEMPERATURE MEASUREMENT PROGRAM, AND WAFER
PRODUCTION APPARATUS**

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ABSTRACT

A temperature measurement device is provided that computes a temperature change amount of a measurement target by excluding, from actually measured radiance, an influence of radiance caused by a member of a chamber in a situation in which a temperature of a silicon wafer serving as the measurement target is indirectly measured. The temperature measurement device includes: a chamber that houses a measurement target object; a heating unit; a chamber window portion at a position of the chamber facing the measurement target object; a temperature measurement unit that measures temperatures of the measurement target object and the chamber window portion; and a computation unit that computes the temperature of the measurement target object from a detection value of the temperature measurement unit. The computation unit includes a conversion unit, a condition acquisition unit, a detection value acquisition unit, and a temperature correction unit. The conversion unit generates conversion data of a temperature change amount of the measurement target object heated in the chamber, the conversion data corresponding to a temperature change amount of the chamber window portion, on the basis of an actually measured temperature computed from the detection value of the temperature measurement unit. The condition acquisition unit acquires a heating condition for the measurement target object in the chamber. The detection value acquisition unit acquires the detection value of the temperature measurement unit. The temperature correction unit corrects the actually measured temperature computed from the detection value of the temperature measurement unit by using the conversion data and estimates the temperature of the measurement target object.