METHOD TO MONITOR SILICIDE FORMATION ON PRODUCT WAFERS

ABSTRACT

A new method to monitor sheet resistance of a metal silicide layer in the manufacture of an integrated circuit device is achieved. The method comprises providing a metal silicide layer overlying an exposed silicon layer on a substrate. A thermal wave intensity signal is generated for the metal silicide layer by an optical measurement system. The optical measurement system comprises a first laser beam that is intensity modulated and a second laser beam. The first and second laser beams comprise different wavelengths. A dichroic mirror is used to combine the first and second laser beams and to project the first and second laser beams onto the metal silicide layer. A detector is used to gather the second laser beam reflected from the metal silicide layer and to generate a thermal wave intensity signal based on the reflected second laser beam. Sheet resistance of the metal silicide layer is calculated by a linear equation based on the thermal wave intensity signal.

FIG. 10