CONTACTLESS SHEET RESISTANCE MEASUREMENT METHOD AND APPARATUS

ABSTRACT OF THE DISCLOSURE

A contactless sheet resistance measurement apparatus and a method for measuring the sheet resistance of a desired layer of a first conductivity type, formed upon a substrate of an opposite conductivity type, is disclosed. The apparatus comprises a junction capacitance establishing means, a point location alternating current AC photovoltage generating means for generating a laterally propagated AC photovoltage, an attenuation and phase shift monitoring means for monitoring the laterally propagated AC photovoltage, and a sheet resistance signal generating means responsive to the junction capacitance establishing means, the AC photovoltage generating means, and the attenuation and phase shift monitoring means for generating an output signal indicative of a sheet resistance R_s of the desired layer according to a prescribed sheet resistance model.