SOLAR CELLS BASED UPON MULTICRYSTALLINE Si WITH DLC ANTIREFLECTION AND PASSIVATING COATINGS

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S u m m a r y

The characteristics of multicrystalline Si solar cells covered by diamond-like carbon (DLC) antireflection coatings have been experimentally studied. It has been shown that this kind of coating provides a significant increase of the efficiency of solar cells mainly due to the increase of the short-circuit current density. The effects of antireflection and of the surface and bulk passivation on the SC current-voltage characteristics due to the DLC deposition have been investigated theoretically. Physical mechanisms underlying the observed effects have been proposed.