ABSTRACT

A fabricating method for a solar cell device (2) comprises the steps of: forming a transparent oxide electrode (12) on the surface of an insulating substrate (10); cleaning the surfaces of the insulating substrate (10) and the transparent oxide electrode (12) with a halogen gas having a saturated vapor pressure higher than that of etching gas in providing the transparent oxide electrode (12); and forming a laminated structure by laminating a surface treatment layer (14), a silicon nitride film (16), a p-type semiconductor layer (18), a buffer layer (20), an intrinsic semiconductor layer (22), an n-type semiconductor layer (24), and a metal electrode (26) in order. Through the above fabricating method, having the step of cleaning the surfaces of the insulating substrate (10) and the transparent oxide electrode (12), the surfaces are made clean to be high in transparency, thereby obtaining a required amount of transmitted light.