WHAT IS CLAIMED IS:

1. A method for inhibiting light-induced degradation of a photovoltaic device made from a boron-doped, oxygen containing silicon substrate or a boron-gallium-doped, oxygen containing silicon substrate each having an annealing temperature, comprising steps of:

a) subjecting the photovoltaic device to an illumination treatment using a light having a wavelength not less than 300 nm to heat the photovoltaic device in the absence of ambient light; and

b) maintaining the temperature of the photovoltaic device above the ~~an~~ annealing temperature of the boron-doped, oxygen containing silicon substrate or the boron-gallium-doped, oxygen containing silicon substrate ~~the photovoltaic device~~ for at least 0.5 minute.

2. The method according to Claim 1, wherein the temperature of the photovoltaic device is maintained below 600°C.

3. The method according to Claim 2, wherein the step of maintaining is aided by a thermal-conditioning.

4. The method according to Claim 3, wherein the thermal-conditioning is implemented by thermal-heating, cooling, or a combination thereof.

5. The method according to Claim 1, further comprising using a sensor to detect the temperature of the photovoltaic device when the step b) is performed.

6. The method according to Claim 1, wherein the photovoltaic device is made of the ~~a~~ boron-doped, oxygen containing silicon substrate, and the annealing temperature is 230°C.

7. The method according to Claim 6, wherein the temperature of the photovoltaic device is maintained within a range from 230°C to 577°C.

8. The method according to Claim 6, wherein the light for the illumination treatment has a wavelength ranging from 450 nm to 1000 nm.

9. The method according to Claim 1, wherein the photovoltaic device includes a light-illuminated surface having a light intensity of at least 0.5 Sun.

10. The method according to Claim 9, wherein the light intensity ranges from 0.9 Sun to 5 Sun.

11. The method according to Claim 1, wherein the light for the illumination treatment is emitted from an infrared lamp, a halogen lamp, a semiconductor light-emitting device, an organic light-emitting device, or combinations thereof.–

~~12. The method according to Claim 1, wherein the photovoltaic device is a boron-doped, oxygen containing silicon substrate or a boron-gallium-doped, oxygen containing silicon substrate.~~

~~13. An apparatus for inhibiting light-induced degradation of a photovoltaic device, comprising:~~

~~a housing having a ceiling wall extending along a~~

~~longitudinal direction, a base wall spaced apart from said ceiling wall, and a surrounding wall disposed between said ceiling wall and said base wall to define a chamber, said surrounding wall having an entry port and an exit port opposite to said entry port in the longitudinal direction;~~

~~a light source mounted on said ceiling wall and configured to emit a beam of illuminating light downward;~~

~~a conveyer having a conveying segment for carrying the photovoltaic device, said conveying segment being configured to extend along a running route which runs from said entry port to said exit port, and which is parallel and proximate to said base wall so as to permit the photovoltaic device to be illuminated by said beam of illuminating light;~~

~~a temperature sensor mounted in said chamber to detect the temperature of the photovoltaic device;~~

~~a thermal-conditioning device for conditioning the temperature of the photovoltaic device; and~~

~~a controller configured to control the light emitted by said light source and said thermal-conditioning device based on the temperature detected by the temperature sensor.~~

~~14. The apparatus according to Claim 13, wherein said light source includes an infrared lamp, a halogen lamp, a semiconductor light-emitting device, an organic light-emitting device, or combinations thereof.~~

~~15. The apparatus according to Claim 13, wherein said thermal-conditioning device includes a cooling device.~~

~~16. The apparatus according to Claim 13, wherein said thermal-conditioning device includes a thermal heating device.~~

~~17. The apparatus according to Claim 15, wherein said thermal-conditioning device further includes a thermal heating device.~~

WHAT IS CLAIMED IS:

1. A method for inhibiting light-induced degradation of a photovoltaic device made from a boron-doped, oxygen containing silicon substrate or a boron-gallium-doped, oxygen containing silicon substrate each having an annealing temperature, comprising steps of:

a) subjecting the photovoltaic device to an illumination treatment using a light having a wavelength not less than 300 nm to heat the photovoltaic device in the absence of ambient light; and

b) maintaining the temperature of the photovoltaic device above the annealing temperature of the boron-doped, oxygen containing silicon substrate or the boron-gallium-doped, oxygen containing silicon substrate for at least 0.5 minute.

2. The method according to Claim 1, wherein the temperature of the photovoltaic device is maintained below 600°C.

3. The method according to Claim 2, wherein the step of maintaining is aided by a thermal-conditioning.

4. The method according to Claim 3, wherein the thermal-conditioning is implemented by thermal-heating, cooling, or a combination thereof.

5. The method according to Claim 1, further comprising using a sensor to detect the temperature of the photovoltaic device when the step b) is performed.

6. The method according to Claim 1, wherein the

photovoltaic device is made of the boron-doped, oxygen containing silicon substrate, and the annealing temperature is 230°C.

7. The method according to Claim 6, wherein the temperature of the photovoltaic device is maintained within a range from 230°C to 577°C.

8. The method according to Claim 6, wherein the light for the illumination treatment has a wavelength ranging from 450 nm to 1000 nm.

9. The method according to Claim 1, wherein the photovoltaic device includes a light-illuminated surface having a light intensity of at least 0.5 Sun.

10. The method according to Claim 9, wherein the light intensity ranges from 0.9 Sun to 5 Sun.

11. The method according to Claim 1, wherein the light for the illumination treatment is emitted from an infrared lamp, a halogen lamp, a semiconductor light-emitting device, an organic light-emitting device, or combinations thereof.