**CLAIMS**

1. A method of manufacturing a solar cell, the method comprising, in the order:

   forming a tunnel oxide ~~(52)~~ over, at least, one surface ~~(503)~~ of a semiconductor substrate ~~(50)~~;

   forming a first layer ~~(54)~~ doped with a first-type conductive dopant over the tunnel oxide;

   forming a mask ~~(56)~~ on the first doped layer;

   forming a second layer ~~(57)~~ doped with a second-type conductive dopant over the mask; and

   doping at least one first region ~~(542, 66)~~ of the first doped layer using a laser, through the second layer doped with the second-type conductive dopant.

2. ~~A~~ The method according to claim 1, comprising forming trenches ~~(60)~~ extending in the second layer ~~(57)~~, the mask ~~(56)~~, the first doped layer ~~(54)~~ and the tunnel oxide ~~(50)~~ after the formation of the second layer.

3. The method according to claim 2, wherein trenches ~~(60)~~ separate the first region ~~(542, 66)~~ of the first doped layer from second regions ~~(541)~~ of the first doped layer.

4. The method according to any of claims 2 or 3, comprising forming a passivation film ~~(72)~~ over the first doped layer, the passivation layer recovering the inside of trenches.

5. The method according to any of claims 1 to 4, comprising texturing of the semiconductor substrate ~~(50)~~ on another surface ~~(501)~~.

6. An IBC solar cell obtained by the method according to anyone of claims 1 to 5.

7. A solar panel comprising IBC solar cells according to claim 6.