ABSTRACT

A semiconductor substrate, including a back surface having N-type conductive regions and P-type conductive regions. The N-type conductive regions are provided with first non-pyramidal texture structures, and the P-type conductive regions are provided with second non-pyramidal texture structures. A top surface of the first non-pyramidal texture structure is a polygonal plane, and a top surface of the second non-pyramidal texture structure is a polygonal plane. A one-dimensional size of the top surface of the first non-pyramidal texture structure is less than a one-dimensional size of the top surface of the second non-pyramidal texture structure. The one-dimensional size of the top surface of the first non-pyramidal texture structure is in a range of 5 μm to 12 μm. The one-dimensional size of the top surface of the second non-pyramidal texture structure is in a range of 10 μm to 40 μm.

(Fig. 1)