

ABSTRACT

A method for manufacturing a bonded substrate is provided, the bonded substrate including a single-crystal semiconductor substrate on a sintered-body substrate that has small warpage after bonding, has good thermal conductivity and small loss at high-frequency region and is suitable for high-frequency devices. Specifically, the method at least includes: applying coating to all of the faces of a sintered-body substrate, so as to obtain a support substrate including at least one layer of amorphous film; and bonding the support substrate and a single-crystal semiconductor substrate via the amorphous film. On a surface of the amorphous film on the support substrate to be bonded with the single-crystal semiconductor substrate, concentration of each of Al, Fe and Ca by ICP-MS method is less than 5.0×10^{11} atoms/cm², and surface roughness Rms of the surface of the amorphous film is 0.2 nm or less.