DIAMOND WAFER, METHOD OF ESTIMATING A DIAMOND WAFER AND DIAMOND SURFACE ACOUSTIC WAVE DEVICE

ABSTRACT

Surfaces of diamond crystals are examined by coating the surfaces with thin metal films, launching laser beams to the diamond surfaces in a slanting angle, detecting defects and particles on the diamond surfaces by the scattering of beams and counting the defects and particles by a laser scanning surface defect detection apparatus. Diamond SAW devices should be made on the diamond films or bulks with the defect density less than 300 particles cm^{-2}. Preferably, the diamond surfaces should have roughness less than Ra20nm. Diamond SAW filters can be produced by depositing a piezoelectric film and making interdigital transducers on the low-defect density diamond crystals.

This Sheet Has Been Replaced

