METHOD OF IDENTIFYING CRYSTAL DEFECT REGION IN MONOCRYSTALLINE SILICON USING METAL CONTAMINATION AND HEAT TREATMENT

ABSTRACT

Provided is a method of identifying crystal defect regions of monocrystalline silicon using metal contamination and heat treatment. In the method, a sample in the shape of a silicon wafer or a slice of monocrystalline silicon ingot is prepared. At least one side of the sample is contaminated with metal at a contamination concentration of about 1×10^{14} to 5×10^{16} atoms/cm^2. The contaminated sample is heat-treated. The contaminated side or the opposite side of the heat-treated sample is observed to identify a crystal defect region. The crystal defect region can be analyzed accurately, easily and quickly without the use of an additional check device, without depending on the concentration of oxygen in the monocrystalline silicon.

FIG. 1