

COPPER CONDUCTOR FILM AND MANUFACTURING METHOD THEREOF,
CONDUCTIVE SUBSTRATE AND MANUFACTURING METHOD THEREOF,
COPPER CONDUCTOR WIRING AND MANUFACTURING METHOD THEREOF,
AND TREATMENT SOLUTION

ABSTRACT

Provided are a copper conductor film and manufacturing method thereof, and patterned copper conductor wiring, which have superior conductivity and wiring pattern formation, and with which there is no decrease in insulation between circuits, even at narrow wiring widths and narrow inter-wiring spacing. Disclosed are a copper conductor film and manufacturing method thereof in which a copper-based particle-containing layer, which contains both a metal having catalytic activity toward a reducing agent and copper oxide, is treated using a treatment solution that contains a reagent that ionizes or complexes copper oxide and a reducing agent that reduces copper ions or copper complex to form metallic copper in a single solution, and patterned copper conductor wiring that is obtained by patterning a copper-based particle-containing layer using printing and by said patterned particle-containing layer being treated by a treatment method using a solution that contains both a reagent that ionizes or complexes copper oxide and a reducing agent that reduces copper ions or copper complexes to form metallic copper in a single solution.

Fig. 2