

플라즈마 디스플레이 패널을 위한 $B_2O_3-Al_2O_3-SrO$ 계 유리의 물리적 특성

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Optical, Thermal and Dielectric Properties of $B_2O_3-Al_2O_3-SrO$ Glasses for Plasma Display Panel

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Abstract : In PDP industry, the dielectrics and barrier ribs have been required with low dielectric constant, low melting point and Pb-free composition due to the low power consumption, low signal delay time and the environment restriction. We were studied with $B_2O_3-Al_2O_3-SrO$ glass systems about optical, thermal and dielectric properties. The glass forming region of the $B_2O_3-Al_2O_3-SrO$ glass systems was narrow due to the amount of the glass former (B_2O_3). The glass transition temperature (T_g) of the glasses was at $550\sim 590^\circ C$. The glasses have 6~8 for the dielectric constant. Furthermore, the transmittance of the glasses was over 80% on the range of the visible ray. From the results, the glasses of the $B_2O_3-Al_2O_3-SrO$ glass systems should enable to be a good candidate of the PDP devices for information display with low dielectric constant. The aim of this study is to give a fundamental result of new glass system for low dielectric constant in the information display.

Key Words : $B_2O_3-Al_2O_3-SrO$ glass systems, Glass forming range, Low dielectric constant, Transmittance,