

VERTICALLY ALIGNED LIQUID CRYSTAL DISPLAY DEVICE

Abstract

A vertically aligned liquid crystal display device is provided in which the phase difference value in the thickness direction of a liquid crystal layer is increased beyond a usual range, whereby the ON transmittance in high duty driving is increased to improve the contrast and the viewing angle.

In the vertically aligned liquid crystal display device, the phase difference value in the thickness direction of the liquid crystal layer 8 is set in a range of from 500 nm to 1,600 nm, and a first phase difference plate 13 is inserted between first and second polarizing plates 9, 10 in which the absorption axes 9a and 10a perpendicularly intersect with each other. The first phase difference plate 13 is a uniaxial phase difference plate which has a negative refractive index anisotropy, in which the phase difference value in the thickness direction is set in a range of from 220 nm to 1,320 nm, and which has the optical axis perpendicular to first and second glass substrates 4, 5 between which a liquid crystal layer 8 is interposed.

Fig. 5