

[0053] FIG. 16A is a plan view of an active matrix type display device according to the second embodiment;

[0054] FIG. 16B is a sectional view taken along a line 16B-16B in FIG. 16A;

[0055] FIG. 17A is a plan view of an active matrix type display device according to the third embodiment;

[0056] FIG. 17B is a sectional view taken along a line 17B-17B in FIG. 17A;

[0057] FIG. 18 is a sectional view of an active matrix type display device according to the fourth embodiment;

[0058] FIG. 19 is a sectional view of an active matrix type display device according to the fifth embodiment;

[0059] FIG. 20A is a plan view of an active matrix type display device according to the sixth embodiment;

[0060] FIG. 20B is a sectional view taken along a line 20B-20B in FIG. 20A;

[0061] FIGS. 21 to 23 are sectional views showing the manufacturing steps of the active matrix type display device according to the sixth embodiment step by step;

[0062] FIGS. 24A to 29B are views showing the manufacturing steps of the active matrix type display device according to the sixth embodiment step by step, in which views having suffix A are plan views, and views having suffix B are sectional views taken along lines designated by numbers suffixed with B in the corresponding plan views;

[0063] FIG. 30A is a plan view of an active matrix type display device according to the seventh embodiment;

[0064] FIG. 30B is a sectional view taken along a line 30B-30B in FIG. 30A;

[0065] FIG. 31A is a plan view of an active matrix type display device according to the eighth embodiment;

[0066] FIG. 31B is a sectional view taken along a line 31B-31B in FIG. 31A;

[0067] FIG. 32A is a plan view of an active matrix type display device according to the ninth embodiment;

[0068] FIG. 32B is a sectional view taken along a line 32B-32B in FIG. 32A;

[0069] FIG. 33 is a sectional view of an active matrix type display device according to the 10th embodiment;

[0070] FIG. 34 is a sectional view of an active matrix type display device according to the 11th embodiment;

[0071] FIG. 35 is a sectional view of an active matrix type display device according to a modification of the 11th embodiment;

[0072] FIG. 36 is a sectional view of an active matrix type display device according to another modification of the 11th embodiment;

[0073] FIG. 37A is a plan view showing the element arrangement of an active matrix type display device according to the 12th embodiment; and

[0074] FIG. 37B is a sectional view taken along a line 37B-37B in FIG. 37A.

DETAILED DESCRIPTION OF THE INVENTION

[0075] Embodiments will be described in detail below with reference to the accompanying drawings.

[0076] (First Embodiment)

[0077] The arrangement of an active matrix type display device of the first embodiment is shown in FIGS. 14A and 14B. As indicated by a large rectangle of a dotted-line in FIG. 14A, a region on a substrate is divided into a pixel region and peripheral region. In the pixel region, active elements such as TFTs and pixel electrodes connected to these elements are formed into an array (not shown). In the peripheral region, a connecting pad electrode for connecting interconnections inside the substrate and interconnections extracted to the outside of the substrate is formed. Regions which are indicated by small rectangles of a dotted-line and in which a scanning line driver and signal line driver are formed are included in the pixel region in this embodiment. However, these regions may be formed in the peripheral region. In FIG. 14A, these drivers are formed in the peripheral region.

[0078] As shown in FIGS. 2A and 2B, the active matrix type display device of this embodiment includes a first plastic substrate 104, a first adhesion layer 103 formed on the first plastic substrate 104, and a first thin glass layer 101 having a thickness of 150 μm or less and formed on the first adhesion layer 103.

[0079] The first adhesion layer 103 has a pixel region adhesion layer 1002 formed in the pixel region and a peripheral region adhesion layer 1001 formed in the peripheral region around the pixel region on the first plastic substrate 104. The glass transition temperature of the pixel region adhesion layer 1002 is 30° C. (inclusive) to 80° C. (inclusive). The glass transition temperature of the peripheral region adhesion layer 1001 is higher by 10° C. or more than that of the pixel region adhesion layer 1002, and is 80° C. (inclusive) to 200° C. (inclusive)

[0080] On the first thin glass layer 101, an active element circuit region 102, a connecting pad electrode 110 connected to the active element circuit region 102, and a liquid crystal layer 109 (display part) are formed. This liquid crystal layer 109 is driven by the active element circuit region 102 in units of pixels. The connecting pad electrode 110 is formed on the peripheral region of the first glass layer 101.

[0081] Also, a second thin glass layer 105 is formed over the liquid crystal layer 109, a second adhesion layer 106 is formed on the second thin glass layer 105, and a second plastic substrate 107 is formed on the second adhesion layer 106. A common electrode 205 is formed on that surface of the second thin glass layer 105, which opposes the liquid crystal layer 109.

[0082] The thickness of the second thin glass layer 105 is 150 μm or less. The second adhesion layer 106 has a pixel region adhesion layer 1002 and peripheral region adhesion layer 1001. The pixel region adhesion layer 1002 is formed in the pixel region and has a glass transition temperature of 30° C. (inclusive) to 80° C. (inclusive). The peripheral region adhesion layer 1001 is formed in the peripheral region around the pixel region on the second thin glass layer 105, and has a glass transition temperature which is higher