by 10° C. or more than that of the pixel region adhesion layer **1002**, and is 80° C. (inclusive) to 200° C. (inclusive)

[**0083**] In this embodiment, in the pixel region, the glass transition temperature of the adhesion layer (pixel region adhesion layer **1002**) between the plastic substrate and thin glass layer is lowered. In the peripheral region around the pixel region, the glass transition temperature of the adhesion layer (peripheral region adhesion layer **1001**) is raised.

[**0084**] In the pixel region, the glass transition temperature is low and hence easily reached at a temperature slightly higher than a room temperature. At temperatures equal to or higher than this glass transition temperature, the adhesion layer softens, and this permits a difference produced by bending or the like between the thin glass layer and plastic substrate. This reduces the stress to the thin glass layer and prevents problems such as destruction. Even at temperatures lower than the glass transition temperature, the soft adhesion layer allows easy deformation, and this improves the impact resistance.

[**0085**] In the peripheral region, the glass transition temperature is high, and this suppresses deformation of the plastic substrate and prevents cracking of the thin glass layer on the edges. This can also prevent thermal stress when a flexible substrate is connected to the connecting pad electrode in the peripheral region via an anisotropic conductive layer at a temperature of about 200° C.

[**0086**] A method of manufacturing the active matrix type display device of this embodiment will be explained below with reference to **FIGS. 3A and 3B** to **FIGS. 13A and 13B**.

[**0087**] As shown in **FIGS. 3A and 3B**, an active element circuit region **102** is formed in a pixel region of a first non-alkaline glass substrate **201** about 0.7 mm thick. This active element circuit region **102** has a TFT array using low-temperature polysilicon as an active layer and peripheral driver circuits. In addition, a connecting pad electrode **110** for interconnections inside and outside the substrate is formed in a peripheral region.

[**0088**] As shown in **FIGS. 4A and 4B**, a seal **108** is so formed as to surround the pixel region. This seal **108** is drawn with a dispenser by using an epoxy-based adhesive. The connecting pad electrode **110** is extended to the outside of the seal **108**. An injection hole **204** for injecting a liquid crystal can be formed in the seal **108**. However, a liquid crystal can also be injected without using an injection hole.

[**0089**] As shown in **FIGS. 5A and 5B**, a common electrode **205** made of a transparent conductive film such as ITO (Indium Tin Oxide) is formed by sputtering or the like on a second non-alkaline glass substrate **202** about 0.7 mm thick. This second non-alkaline glass substrate **202** and the first non-alkaline glass substrate **201** having the active element circuit region **102** and connecting pad electrode **110** formed on it are coupled and bonded by hardening the seal **108**, such that the common electrode **205** and active element circuit region **102** oppose each other. Although not shown in the drawings, an alignment films are formed on the pixel electrode **102** and the common electrode **205**, followed by rubbing. A good alignment film can be obtained at a processing temperature of 200° C. When a thermosetting type adhesive is used as the seal **108**, this seal **108** is hardened at about 180° C. to 220° C. However, no problem arises because the glass substrates having high heat resistance are used. An ultraviolet ray curable adhesive for main sealing may be used as the seal **108**.

[**0090**] Next, the two non-alkaline glass substrates are thinned by polishing. In this embodiment, as shown in **FIGS. 6A and 6B**, the first non-alkaline glass substrate **201** on which the active element circuit region **102** is formed is first polished. This polishing is performed by chemical etching using a hydrofluoric-acid-based etchant, with the second non-alkaline glass substrate **202** and the side surfaces protected by a chemical-resistant sheet (not shown) or the like. Note that the thin film may be formed by mechanical polishing or chemical mechanical polishing (CMP).

[**0091**] In **FIGS. 6 through 8**, only the substrate **101** is polished, but both of the substrate **101** and **202** can be simultaneously polished. This makes the manufacturing process shorter.

[**0092**] When polishing of glass is performed, the material protecting the surroundings need not be a cover sheet. For example, glass polishing can be performed by temporarily fixing the substrates to a jig such as an appropriate plate member made of glass, hard plastic, metal, or ceramic, and the substrates can be removed from the jig after being polished. When the polished surface is bonded to a plastic substrate explained later with the substrate fixed to the jig, no mechanical force is applied to the thinned glass substrate. This effectively improves the yield.

[**0093**] The first non-alkaline glass substrate **201** is thinned to form a first thin glass layer **101** about 50 μm thick. That is, the first non-alkaline glass substrate **201** is not completely removed, but the glass layer is left behind as the first thin glass layer **101**. This leaves no damage by removal of the first non-alkaline glass substrate **201** in the active element circuit region **102**, so the mechanical strength can be maintained.

[**0094**] The thickness of the thinned glass is preferably 150 μm or less in accordance with the conditions such as the polishing accuracy, mechanical strength, and internal stress during the formation of active elements. If this thickness is more than 150 μm, the glass looses its flexibility to bending and easily cracks. If the glass thickness is too small, permeation of water and the like from the plastic substrate cannot be stopped, and this lowers the reliability. Therefore, the glass thickness is favorably about 1 μm or more.

[**0095**] As shown in **FIGS. 7A and 7B**, the first thin glass layer **101** and a first plastic substrate **104** made of 0.1-mm thick PES (polyethersulfone) are bonded via a first adhesion layer **103**. In this first adhesion layer **103**, the characteristics of a peripheral region adhesion layer **1001** are different from those of a pixel region adhesion layer **1002**. The peripheral region is a region which is outside the seal **108** and which has the edges and the region in which the connecting pad electrode **110** is formed.

[**0096**] In this embodiment, Photolec 720 manufactured by Sekisui Chemical Co., LTD. or TB3042 manufactured by THREE BOND CO., LTD. is used as the pixel region adhesion layer **1002**. Photolec 720 is an allyl-based ultraviolet ray curable adhesive having a glass transition temperature of about 47° C. TB3042 is an acryl-based ultraviolet ray curable adhesive having a glass transition temperature of about 60° C.