by applying, exposing, and developing the photosensitive resin, so that it is possible to process the insulating layer easily without requiring a resist material. Furthermore, since the photosensitive resin layer has higher film toughness than an inorganic film does, crack generation can be suppressed when the layer is used in a flexible display device.

[0005]

As a photosensitive resin composition for an insulating layer of a TFT, for example, materials containing a polyimide resin are proposed from the viewpoint of heat resistance (Patent Documents 1 and 2).

PRIOR ART DOCUMENTS

PATENT DOCUMENTS

[0006]

Patent Document 1: Japanese Patent Laid-open Publication No. 64-24231

Patent Document 2: Japanese Patent Laid-open Publication No. 2011-222787

SUMMARY

PROBLEMS TO BE SOLVED

[0007]

However, these materials cannot be said to have sufficient performance from the viewpoint of suppression of

outgassing, and have a problem that the driving performance is lowered due to outgassing components generated from the thermally cured insulating layer. In view of the above-mentioned problem, it is an object of the embodiments disclosed herein to provide a photosensitive resin composition for thin film transistors with which it is possible to form an insulating layer for thin film transistors that is extremely little in outgassing from a cured film and that is excellent in driving performance.

SOLUTIONS TO THE PROBLEMS

[0008]

In an aspect, there is provided a photosensitive resin composition for thin film transistors, containing (A) an amide group- and/or imide group-containing alkali-soluble resin, (B) a photosensitive compound, and (C) an organic solvent, wherein the organic solvent (C) contains 1% by mass or less of a nitrogen atom-containing organic solvent based on the organic solvent in total.

[0008a]

In another aspect, there is provided a cured film which is a cured product of the photosensitive resin composition for thin film transistors as defined above.

[0008b]

In another aspect, there is provided a thin film transistor comprising the cured film as defined above in at least one of a gate insulating layer and an interlayer insulating layer.

[0008c]

In another aspect, there is provided a thin film transistor of a top gate type, comprising the cured film as defined above in an interlayer insulating layer, and comprising at least one of silicon nitride, silicon oxide, and silicon oxynitride in a gate insulating layer.

[0008d]

In another aspect, there is provided a liquid crystal display device or an organic electroluminescent display device comprising the thin film transistor as defined above.

[0008e]

In another aspect, there is provided a method for producing a cured film, comprising the steps of: applying the photosensitive resin composition for thin film transistors as defined above to a substrate to form a photosensitive resin film; drying the photosensitive resin film; exposing the photosensitive resin film; developing the exposed photosensitive resin film; and thermally curing the photosensitive resin film.

[0008f]

In another aspect, there is provided a method for manufacturing a thin film transistor using a cured film obtained by the production method as define above.

[0008g]

In another aspect, there is provided a method for manufacturing a liquid crystal display device or an organic electroluminescent display device using a thin film transistor

obtained by the manufacturing method as defined above.

EFFECTS

[0009]

The present disclosure can provide a photosensitive resin composition for thin film transistors with which it is possible to form an insulating layer for thin film transistors that is