

(12) United States Patent Lee et al.

US 7,599,015 B2 (10) Patent No.: (45) Date of Patent: Oct. 6, 2009

(54)	THIN FILM TRANSISTOR ARRAY PANEL
	AND A METHOD FOR MANUFACTURING
	THE SAME

(75)	Inventors:	Young-Wook Lee, Suwon-si (KR);		
		Jang-Soo Kim, Suwon-si (KR)		

(73)	Assignee:	Samsung	Electronics	Co.,	Ltd.,
------	-----------	---------	-------------	------	-------

Suwon-Si (KR)

(*) Notice: Subject to any disclaimer, the term of this

patent is extended or adjusted under 35

U.S.C. 154(b) by 476 days.

(21) Appl. No.: 11/487,837

(22) Filed: Jul. 17, 2006

Prior Publication Data (65)

> US 2007/0046847 A1 Mar. 1, 2007

(30)Foreign Application Priority Data

Aug. 26, 2005 (KR) 10-2005-0078742

(51)	Int. Cl.	

(2006.01)G02F 1/136

Field of Classification Search 349/42, 349/43, 139, 141, 143, 148

See application file for complete search history.

(56)**References Cited**

U.S. PATENT DOCUMENTS

7,190,419 B2 * 3/200	Park	349/43
----------------------	------	--------

7,211,827	B2 *	5/2007	Lee et al 257/72
7,528,917	B2 *	5/2009	Kim et al 349/141
2004/0070717	A1*	4/2004	Hong et al 349/141
2004/0105051	A1*	6/2004	Chuang et al 349/106
2009/0079888	A1*	3/2009	Nakayoshi et al 349/38

FOREIGN PATENT DOCUMENTS

JР	2000-111957	4/2000
JР	2000-292801	10/2000
JР	2002-258262	9/2002
JР	2003-131240	5/2003
KR	1999-0035922	5/1999
KR	1020020063498	8/2002
KR	1020040084488	10/2004

* cited by examiner

Primary Examiner—Sarah Song

(74) Attorney, Agent, or Firm—F. Chau & Associates, LLC

ABSTRACT

A thin film transistor array panel includes a substrate; a plurality of gate lines that are formed on the substrate; a plurality of data lines that intersect the gate lines; a plurality of thin film transistors that are connected to the gate lines and the data lines; a plurality of color filters that are formed on upper parts of the gate lines, the data lines, and the thin film transistors; a common electrode that is formed on the color filters and that includes a transparent conductor; a passivation layer that is formed on an upper part of the common electrode; and a plurality of pixel electrodes that are formed on an upper part of the passivation layer and that are connected to a drain electrode of each of the thin film transistors.

17 Claims, 14 Drawing Sheets

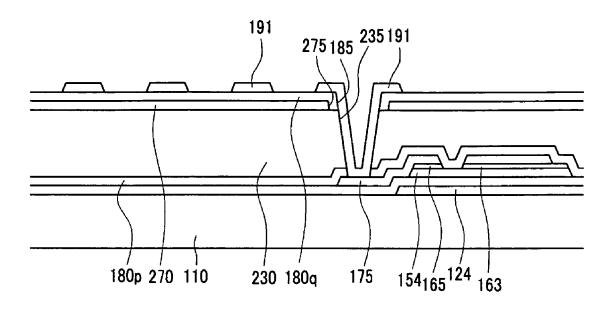




FIG.1

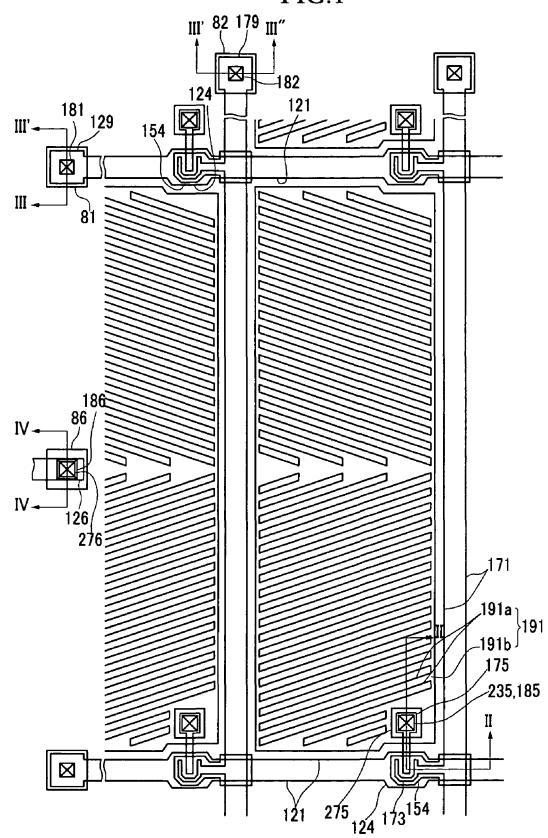




FIG.2

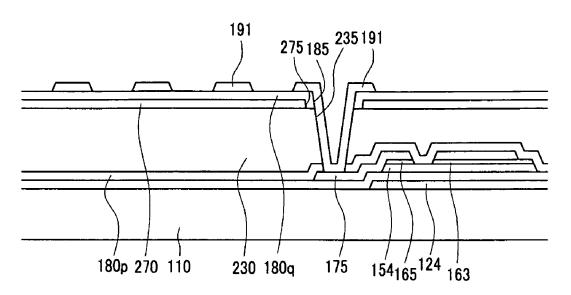


FIG.3

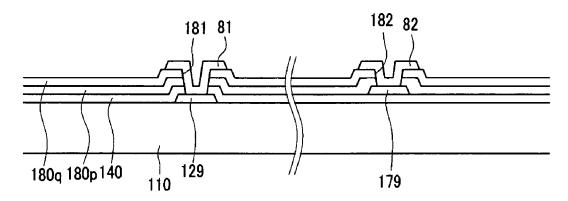


FIG.4

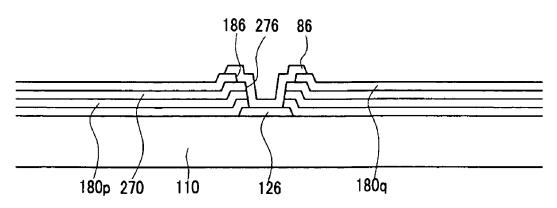
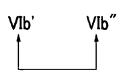
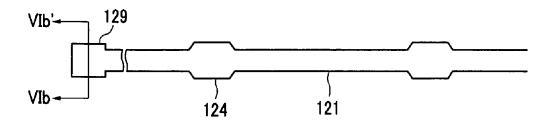
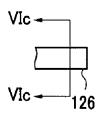


FIG.5



Oct. 6, 2009





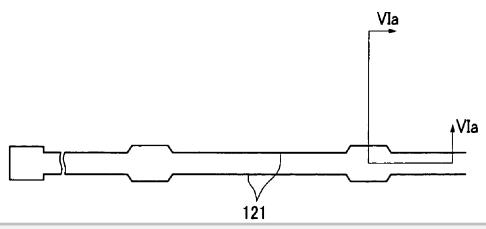




FIG.6A

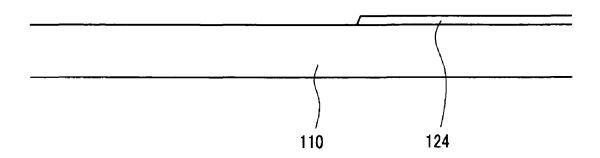


FIG.6B

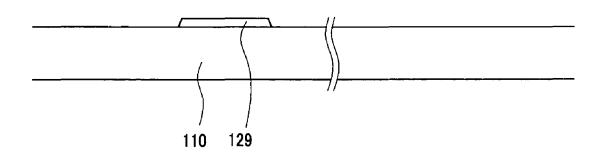
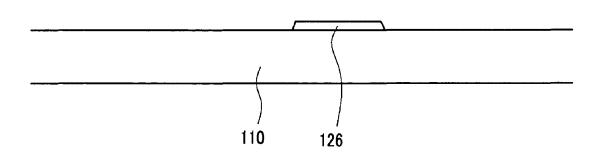


FIG.6C





DOCKET A L A R M

Explore Litigation Insights



Docket Alarm provides insights to develop a more informed litigation strategy and the peace of mind of knowing you're on top of things.

Real-Time Litigation Alerts



Keep your litigation team up-to-date with **real-time** alerts and advanced team management tools built for the enterprise, all while greatly reducing PACER spend.

Our comprehensive service means we can handle Federal, State, and Administrative courts across the country.

Advanced Docket Research



With over 230 million records, Docket Alarm's cloud-native docket research platform finds what other services can't. Coverage includes Federal, State, plus PTAB, TTAB, ITC and NLRB decisions, all in one place.

Identify arguments that have been successful in the past with full text, pinpoint searching. Link to case law cited within any court document via Fastcase.

Analytics At Your Fingertips



Learn what happened the last time a particular judge, opposing counsel or company faced cases similar to yours.

Advanced out-of-the-box PTAB and TTAB analytics are always at your fingertips.

API

Docket Alarm offers a powerful API (application programming interface) to developers that want to integrate case filings into their apps.

LAW FIRMS

Build custom dashboards for your attorneys and clients with live data direct from the court.

Automate many repetitive legal tasks like conflict checks, document management, and marketing.

FINANCIAL INSTITUTIONS

Litigation and bankruptcy checks for companies and debtors.

E-DISCOVERY AND LEGAL VENDORS

Sync your system to PACER to automate legal marketing.

