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(54) Display device of active matrix type

(57) When a gate voltage having a rectangular-shaped pulse is supplied, the voltage of a pixel electrode is pulled down and fluctuated by a fall of the gate voltage due to a parasitic capacitor formed between a gate line and the pixel electrode, i.e. a so-called drop voltage is generated. As the drop voltage depends on a time constant of a change in the gate voltage, it can be diminished by smoothing the falling edge of the gate voltage. This is achieved by, for example, providing a current discharging transistor of a gate driver 8 with a small channel width to decrease the maximum current value. By utilizing such a gate voltage, a liquid crystal display device with a small drop voltage can be provided, even when the capacitance of the parasitic capacitor is great.

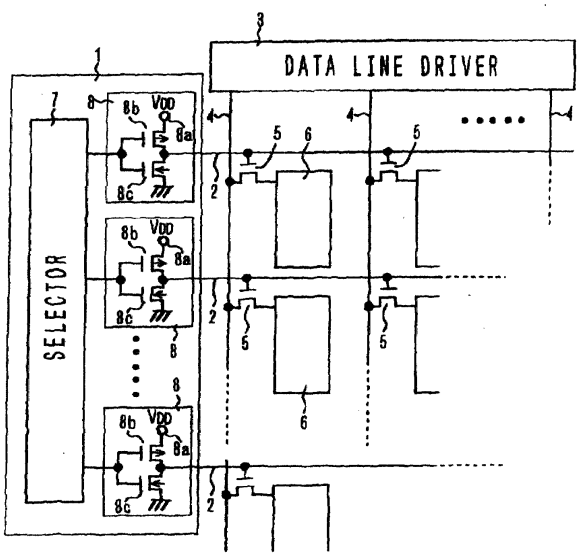

Fig. 2

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EUROPEAN SEARCH REPORT

Application Number
EP 01 30 2925

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The present search report has been drawn up for all claims

Place of search	Date of completion of the search	Examiner
THE HAGUE	16 November 2001	Farricella, L

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X : particularly relevant if taken alone
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A : technological background
O : non-written disclosure
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T : theory or principle underlying the invention
E : earlier patent document, but published on, or after the filing date
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L : document cited for other reasons

& : member of the same patent family, corresponding document

EPO FORM 1503 03.82 (P04C01)

ANNEX TO THE EUROPEAN SEARCH REPORT ON EUROPEAN PATENT APPLICATION NO. EP 01 30 2925

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16-11-2001

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专利名称(译)	有源矩阵型显示装置		
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[标]申请(专利权)人(译)	三洋电机株式会社		
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IPC分类号	G02F1/136 G02F1/133 G02F1/1368 G09G3/20 G09G3/36 H01L29/786		
CPC分类号	G09G3/3677 G09G2310/066 G09G2320/0219		
优先权	2000087770 2000-03-28 JP		
其他公开文献	EP1139329A2		
外部链接	Espacenet		

摘要(译)

当提供具有矩形脉冲的栅极电压时，由于栅极线和像素电极之间形成的寄生电容器，即由此产生的栅极电压的下降，像素电极的电压被下拉并波动。称为降压产生。由于下降电压取决于栅极电压变化的时间常数，因此可以通过平滑栅极电压的下降沿来减小它。这是通过例如提供具有小沟道宽度的栅极驱动器8的电流放电晶体管以减小最大电流值来实现的。通过利用这样的栅极电压，即使寄生电容器的电容很大，也可以提供具有小的压降电压的液晶显示装置。

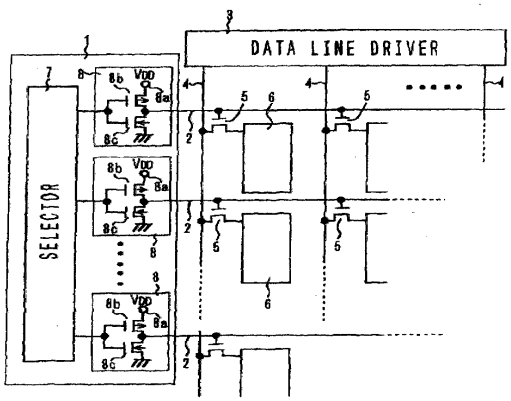

Fig. 2