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Shimoda

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(54) **DRIVE CIRCUIT FOR DISPLAY DEVICE**

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(52) **U.S. Cl.** **345/55**; 345/78; 345/82; 345/92; 345/98; 345/100; 315/169.1; 315/169.3

(58) **Field of Search** 345/74.1, 76, 78, 345/82, 89, 92, 98, 100, 204, 214, 211; 315/169.1, 169.3, 302

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(57) **ABSTRACT**

A drive circuit drives a display device including a plurality of pixels arranged as a matrix. Luminous elements are provided for the individual pixels. In this circuit, the luminous element and a drive transistor for driving the luminous element in each of the pixels are serially connected between a first power supply and a second power supply. A first switching transistor supplies the gate of the drive transistor with a control signal for controlling the drive transistor. A differential amplifier compares a voltage at a connection point between the luminous element and the drive transistor, and a control voltage which is input in the differential amplifier so as to control the luminance of the pixel, thereby generating a control signal. The control signal is supplied to the gate of the drive transistor via the first switching transistor. A hold capacitor holds a voltage between the gate and the source of the drive transistor. Thus, the drive circuit does not present a luminance unevenness, enables a high gradation display, prevents a decrease of the yield and the aperture ratio, and decreases the price and the power consumption.

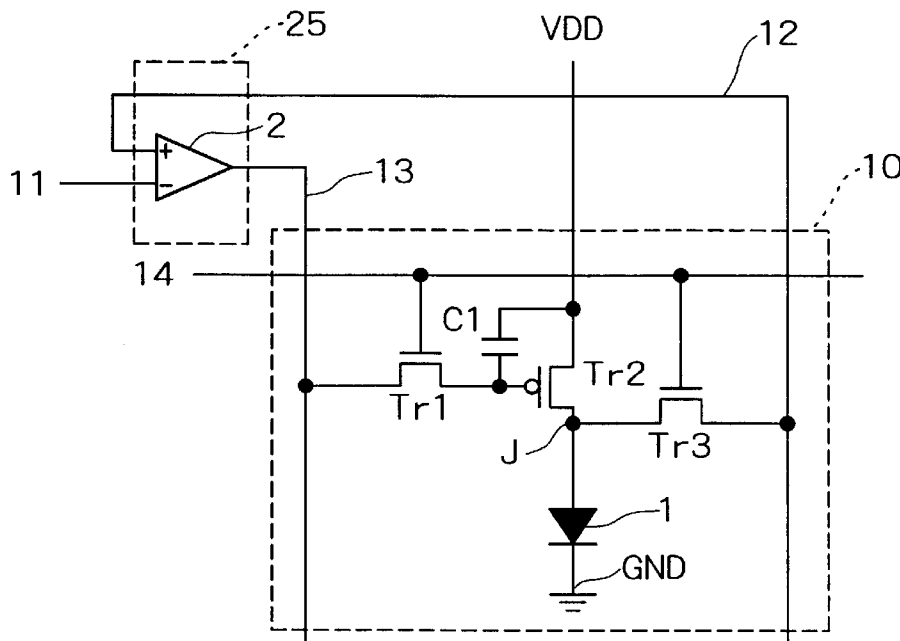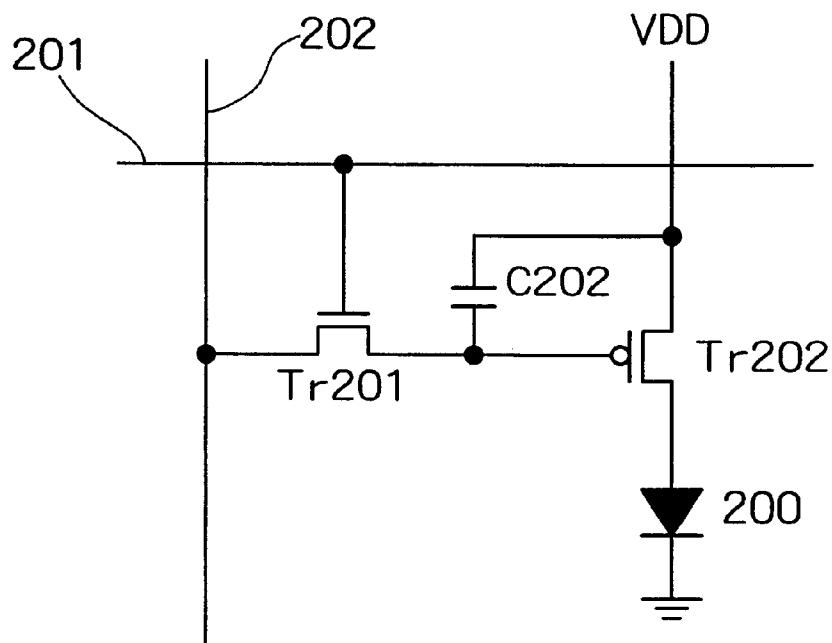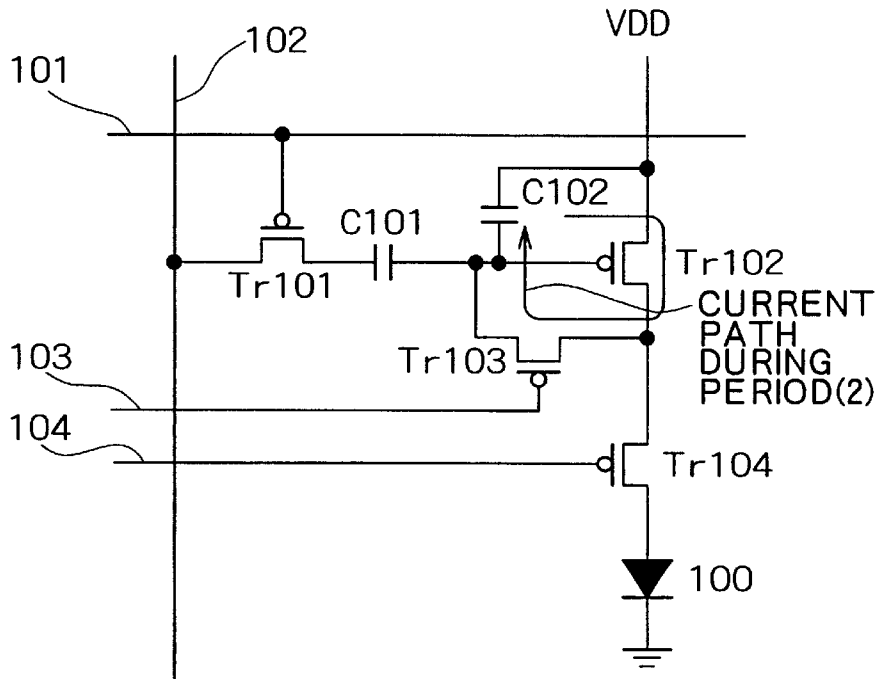**12 Claims, 9 Drawing Sheets**

FIG.1 (PRIOR ART)

FIG.2 (PRIOR ART)

FIG.3 (PRIOR ART)

FIG.4

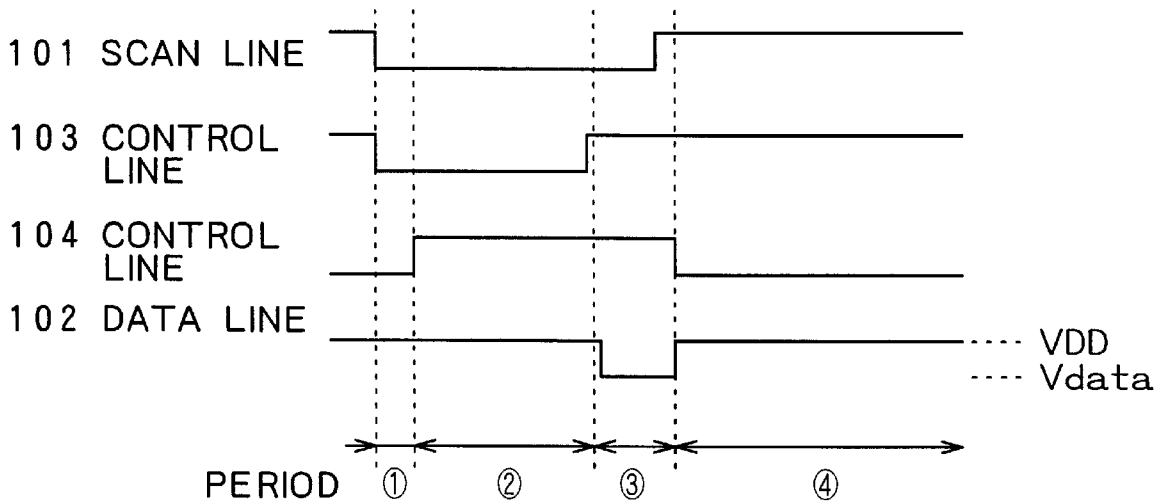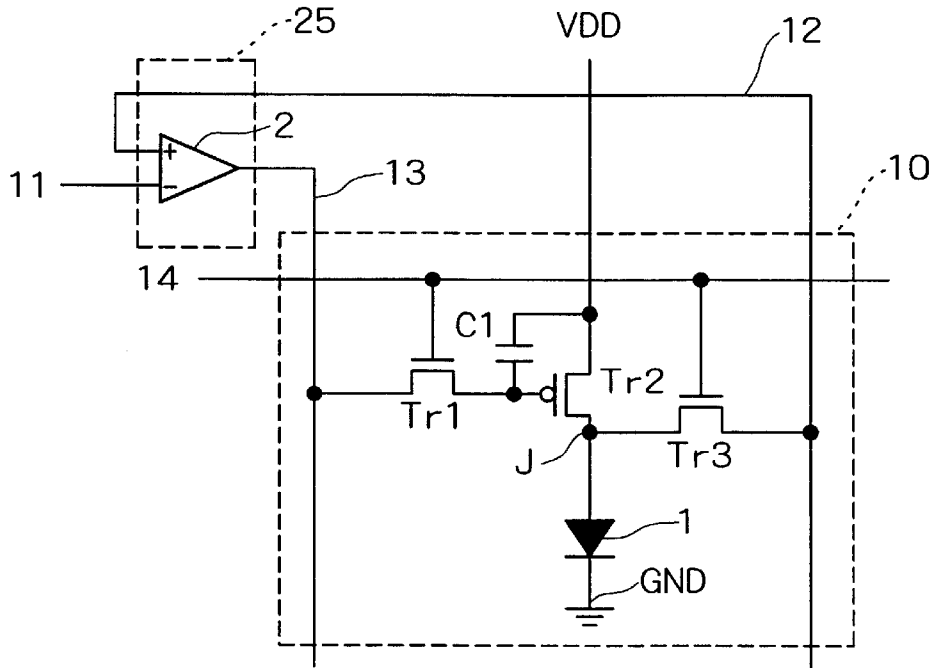
FIG.5

FIG.6

FIG.7

DOCKET ALARM
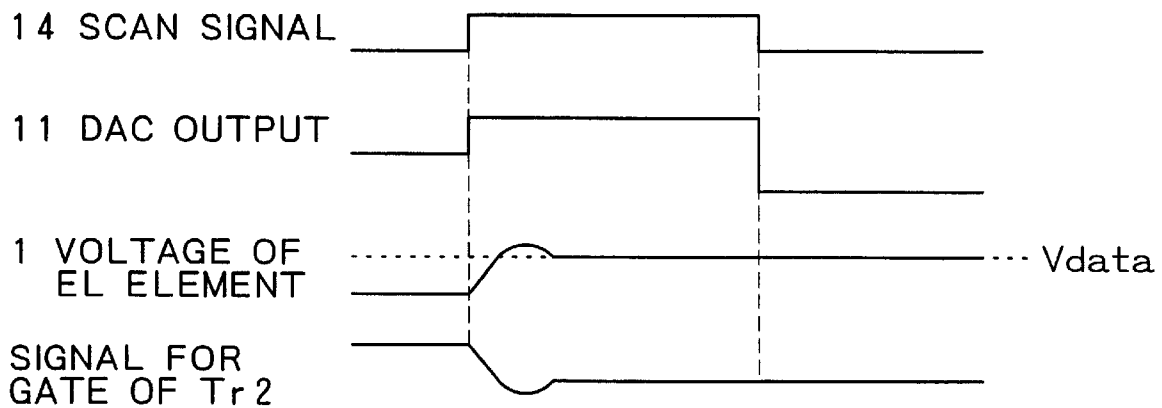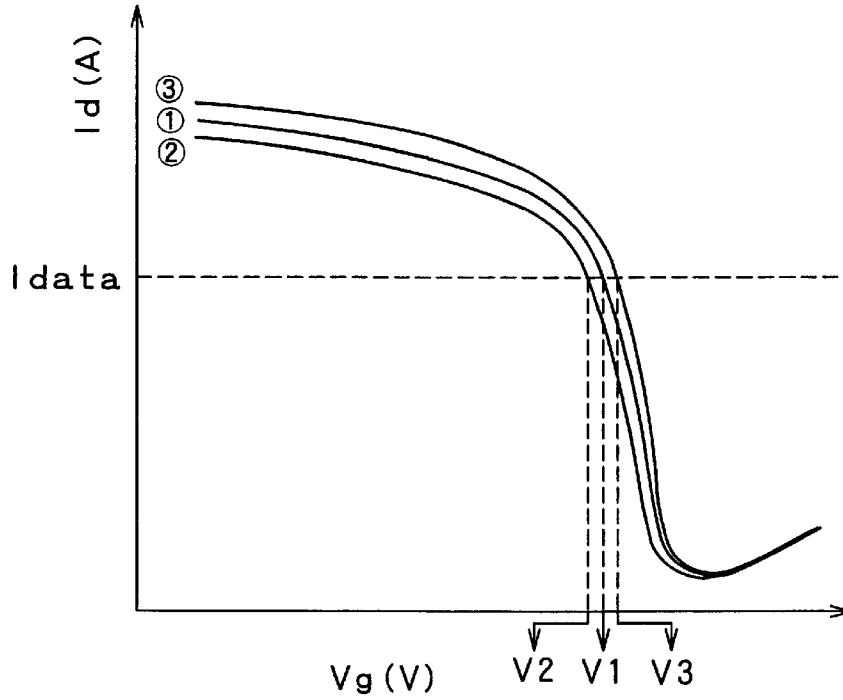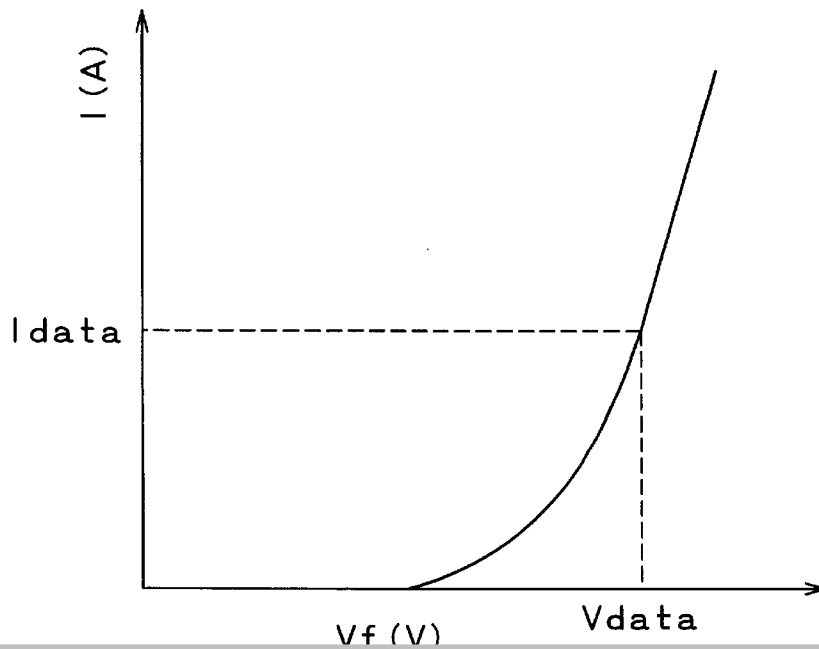
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