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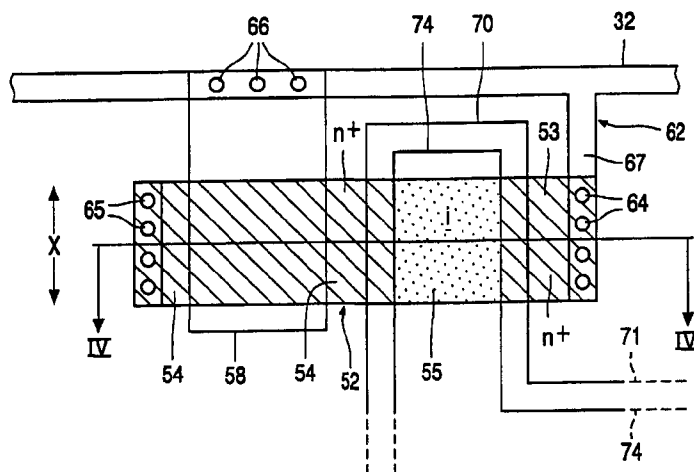
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(54) Title: MATRIX ARRAY DISPLAY DEVICES WITH LIGHT SENSING ELEMENTS



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(57) Abstract: A matrix array display device has an array of pixels (10) on a substrate (50) which each have a display element (20), for example an electroluminescent display element, and associated control circuit including a storage capacitor (36) and a light sensing element (40) connected thereto for regulating charge stored on the capacitor and responsive, for example, to light emitted from the display element so as to regulate operation of the display element. The light sensing elements (40) comprise thin film semiconductor devices each having a strip of semiconductor material (52) with laterally-spaced, doped, contact regions (53, 54) and the associated storage capacitor (36) is formed by a conductive layer (58) extending substantially transversely of the strip over one contact region with intervening dielectric material. A predetermined relationship between the storage capacitor and photosensitive device characteristics is then ensured even though dimensional variations in component layers may occur due to manufacturing tolerances. Preferably, the photosensitive device comprises a gated device whose gate extends over the semiconductor strip region intermediate the contact regions. The gate dielectric and storage capacitor dielectric may comprise parts of a common layer (56). Alternatively, the conductive layer may be provided at the side of the strip opposite the gate and used also as a shield for ambient light.



**(15) Information about Correction:**

see PCT Gazette No. 03/2002 of 17 January 2002, Section II

*For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*