



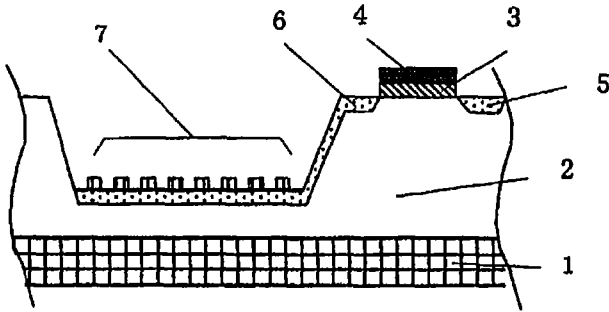
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(54) Title: FIELD EMISSION DEVICE, ITS MANUFACTURING METHOD AND DISPLAY DEVICE USING THE SAME  (57) Abstract A field emission device (FED) comprising an amorphous substrate; impurity diffusion preventing layer; FET formed on a formation surface of a semiconductor layer made of amorphous silicon or polycrystalline silicon; one or more emitters made by etching the semiconductor layer of the FET drain region; and extraction electrode. The semiconductor layer is made by CVD process. The emitter array is formed within a ring or polygonal FET drain region, and surrounded by the ring or polygonal gate electrode and source electrode. The entire FET region is covered with an insulation layer and metal layer. This configuration provides uniform current emission characteristics among emitter chips, and achieves uniform electron emissions to all directions. Application of present FED to a flat panel display device achieves high picture quality, low power consumption, and low manufacturing cost.		