

phototransistor

Also contains definitions of: Darlington phototransistor, field effect phototransistor

A bipolar transistor with its base-collector junction acting as a photodiode, which, if irradiated, controls the response of the device. Due to the inherent current gain (of the transistor) the responsivity of the phototransistor is greater than that of photodiodes. A Darlington phototransistor consists of two separate transistors coupled in the high-impedance Darlington configuration with a phototransistor as the input transistor. A field effect phototransistor or photo-FET is a field effect transistor (FET) that employs photogeneration of carriers in the channel region (the neutral region sandwiched between the insulator and the depletion region under the gate of the FET). It is characterized by high responsivity due to the high current gain of the FET.

Source:

PAC, 1995, 67, 1745 (*Nomenclature, symbols, units and their usage in spectrochemical analysis-XI. Detection of radiation (IUPAC Recommendations 1995)*) on page 1755