

What is a silicon photocell used for?

Silicon photocell for use in photometers, position detection, optical encoders and applications for solar energy conversion. © 2025 IMM photonics. All Rights Reserved.

Can amorphous silicon encapsulation improve mis-type photodetectors and solar cells?

In conclusion, this paper demonstrates that the encapsulation of silicon nanocrystals (Si NCs) by an amorphous silicon layer, followed by their integration into a MIS (Metal-Insulator-Semiconductor) structure, is a promising approach to improve the performance of MIS-type photodetectors and solar cells.

Is Si nc capped with amorphous silicon photosensitive?

Current-voltage measurements, performed both in the dark and under visible illumination, reveal that the MIS structure integrating Si NCs capped with amorphous silicon is highly photosensitive, with a current increase of a factor of 300 under visible light excitation at a bias of $V_B = -1 \text{ V}$.

Does antireflective film cause color difference in polycrystalline silicon cells?

Following the previous work, in this paper, the antireflective films thicknesses, refractive indexes and reflectance spectra of different color categories of the polycrystalline silicon cells are tested and compared. It is found that the color difference of polycrystalline silicon cells is mainly caused by the antireflective film.

What causes the color difference of polycrystalline silicon cells?

It is found that the color difference of polycrystalline silicon cells is mainly caused by the antireflective film. Then the matrix transfer method is used to simulate the reflection spectra according to the actual tested parameters of the samples, and the effectiveness of the simulation is verified.

Does silicon nanocrystal encapsulation maintain electrical stability despite amorphous silicon film?

This in-depth analysis shows that, despite the presence of silicon nanocrystals encapsulated by an ultrathin amorphous silicon film, the MIS structure maintains excellent electrical stability and reliable transport behavior.

Resolution 0.001 Abs Accuracy $\pm 0.003 \text{ Abs}$ @ 1.000 Abs Light source Light Emitting Diode Bandpass filter bandwidth 8 nm Bandpass filter wavelength accuracy $\pm 1.0 \text{ nm}$ Light detector ...

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Resolution : 1 mm Pfund : Accuracy $\pm 25^\circ$; C (77 $^\circ$; F : $\pm 2 \text{ mm}$ Pfund @ 80 mm Pfund : Light source : Tungsten lamp : Light Detector : Silicon Photocell with narrow band interference filter @420 nm ...

Double Beam UV-Vis Spectrophotometer LUS-B12 is a compact, tabletop unit designed with double beam monochromator, comprising automatic calibration and silicon photocell sensor. ...

ciency, high resolution, and high portability, so it is very useful in many fields. Keywords Silicon photocell A/D conversion Signal self-adapting CPLD LCD 253.1 Introduction Illumination is ...

Ge photocells have a bandgap of 0.66 eV and can effectively be illuminated by a selective Er 2O 3 emitter. Their efficiencies are lower than those of photocells from low bandgap ...

silicon photocells was assessed, and the results indicated that the spectral sensitivity curve of the amorphous silicon ... ing resolution[18]. Amorphous silicon is a material characterized by short ...

SPL.2 EXTERNAL PHOTOCELL. Silicon photodiode to provide accurate light readings - range | 2000 lux; resolution | 2 lux; This device is ideal for dawn/dusk switching arrangements; SPL.20. Silicon photodiode to provide accurate light ...

a,b Micro image of modern silicon photomultiplier, a-overall view 1x1 mm 2, b-detailed view of micro-cell area. On Fig.6,b is presented microscopic view of single avalanche breakdown micro-cell ...

Resolution 0.001 Abs Accuracy ± 0.003 Abs (at 1.000 Abs) Light Source light emitting diode Bandpass Filter Bandwidth 8 nm Bandpass Filter Wavelength Accuracy ± 1.0 nm Light Detector ...

Application:It is especially ideal for optical instruments operating in the 300NM to 1000NM spectral range.This photocell has a wide spectral response unmatched by ...

Web: <https://vielec-electricite.fr>