

CEP-2000 Spectral Response measurement system

Evaluation for dye sensitized and organic thin film cells



*Actual appearance of the instrument is black

By irradiating monochromatic light to them in constant energy or constant photons that does not have dependency on the wavelength, the model CEP-2000 is capable to measure the spectral response and quantum efficiency of the solar cells.

The CEP-2000 has been designed for the measurement of organic solar cells which require much stronger constant energy (max. $5\text{mW}/\text{cm}^2$) and constant photons (max. $10^{16}\text{photon}/\text{cm}^2$) compared with that of silicon cells.

A white bias light source is available as a standard which enables the model CEP-2000 to measure the I-V curve with the AM-1.5G filter as a solar simulator easily in addition to spectral response measurement under the pseudo sunlight.

■ Specifications

Measurement items	Spectral response, I-V curve, Quantum efficiencies
Wavelength range	300~1200nm
Monochromatic light	
Light source	Xenon lamp
Irradiation area	10×10mm
Wavelength purity	Variable, ca. 24nm
Irradiation Intensity	0.5~5mW/cm ² (400~700nm) 0.1~1mW/cm ² (300~1200nm)
In-plane non uniformity	±5% @550nm
Constancy of wavelength intensity	±3%
Irradiation mode	Constant energy, Constant photons
Measurement mode	DC and AC (0.1 ~ 100Hz)
White light bias	
Light source	Xenon lamp
Irradiation area	20×20mm
Spectral coincidence	Class A (0.75~1.25)

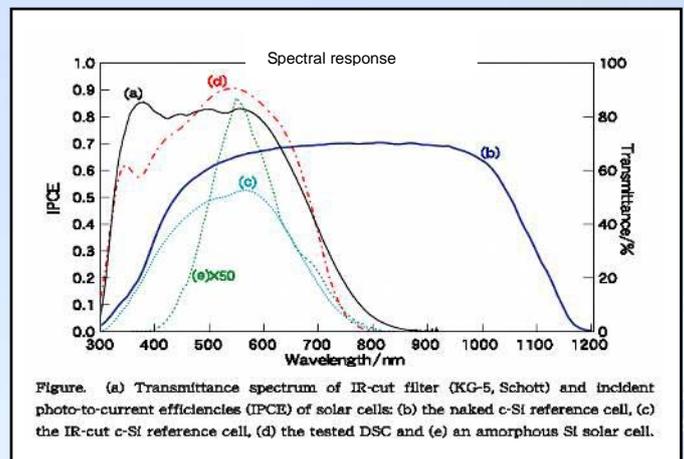
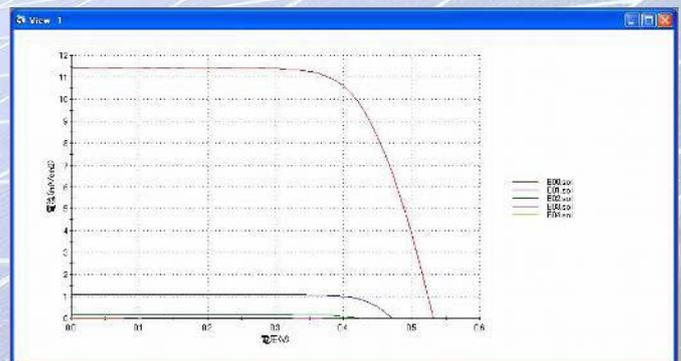


Figure. (a) Transmittance spectrum of IR-cut filter (KG-5, Schott) and incident photo-to-current efficiencies (IPCE) of solar cells: (b) the naked c-Si reference cell, (c) the IR-cut c-Si reference cell, (d) the tested DSC and (e) an amorphous Si solar cell.

The above data was kindly provided by Professor Yanagida of School/Graduate School of Engineering Osaka University



I-V measurement data (an example)

*The specifications and appearance are subject to change without prior notice.

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