

T4000

Organic Semiconductor Parameter Test System

Test Systems On Demands
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The optoelectronic characterization of organic semiconductor layer is substantially important in applications for organic photovoltaics(OPV) and organic light emitting diode (OLED), and T4000 Organic Semiconductor Parameter Test System performs various experiments based on LED light source and high-speed measurement electronics in order to obtain charge carrier mobility and other characteristic parameters.

TPV/TPC/CE

+

CELIV

+

DIT

+

IMVS/IMPS

+

EIS

+

CVS



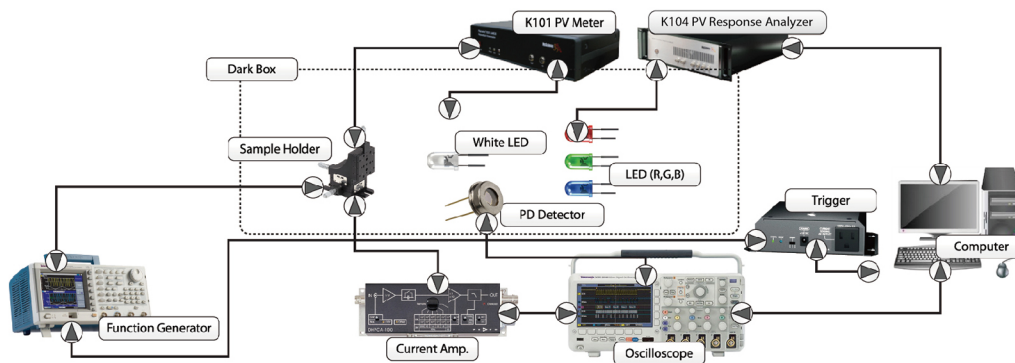
Transient Photovoltage (TPV) / Photocurrent Response (TPC)
Charge Extraction (CE) / Charge Extraction by Linearly Increasing Voltage (CELIV)
Dark Injection Transient (DIT)
Intensity Modulated Photocurrent / Photovoltage Spectroscopy (IMPS/IMVS)
C-V Spectroscopy (CVS)
I-V Characteristics



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System Configuration



* If T104 is used, the Function Generator, K101 PV Meter, K104 PV Response Analyzer and Trigger Unit are NOT included.

System Components



System Specification

Model Name	T4000 Organic Semiconductor Parameter Test System
System Model/Option	T4000 - K / K : Standard Option
System Configuration	LED, Oscilloscope, PV Response Analyzer, PV Meter, Function Generator, Signal Amplifier, Voltage Amplifier, Switching & Trigger Unit, Optical Unit(Focusing Lens, Beam Splitter, Photodetector, Sample Mounting Unit, Dark Box & System Frame
Dimension	: (W)930 mm X (D)470 mm X (H)480 mm Size(mm) : 930 x 470 x 480 / Weight(kg) : 100kg / Utility : 220V, 15A
Sample	Organic Semiconductor, OPV, Perovskite cells, QD cells, Dye solar cell, uc-Si/a-Si solar cell
Sample Size / Type	Glass Size : <50mm x 50mm / Active Area : 5mm x 5mm / Top and Bottom Type
Beam Size	<5mm x 5mm
Measure Time Range	10nsec ~ 10s/div
Transit Time Min. Measure Time	Min. 1usec
Frequency	1Hz ~ 100KHz
Test Mode	TPC, TPV, CE, CELIV, DIT, C-V, C-F, IMPS, IMVS, EIS, Dark I-V
Measure/Analysis Item	Carrier Collection Time/Diffusion, Coefficient/Lifetime, Charge Mobility/Density, Built-in Voltage, Geometrical Capacitance, Negative Differential Susceptance, Series Resistance