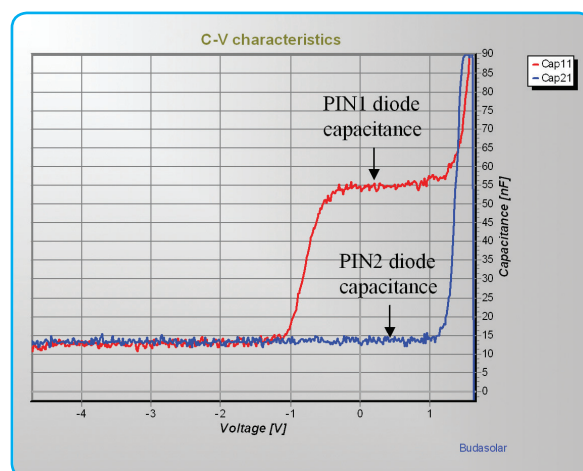
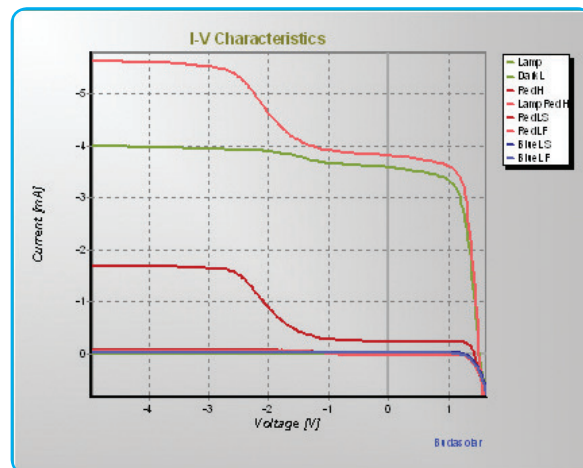
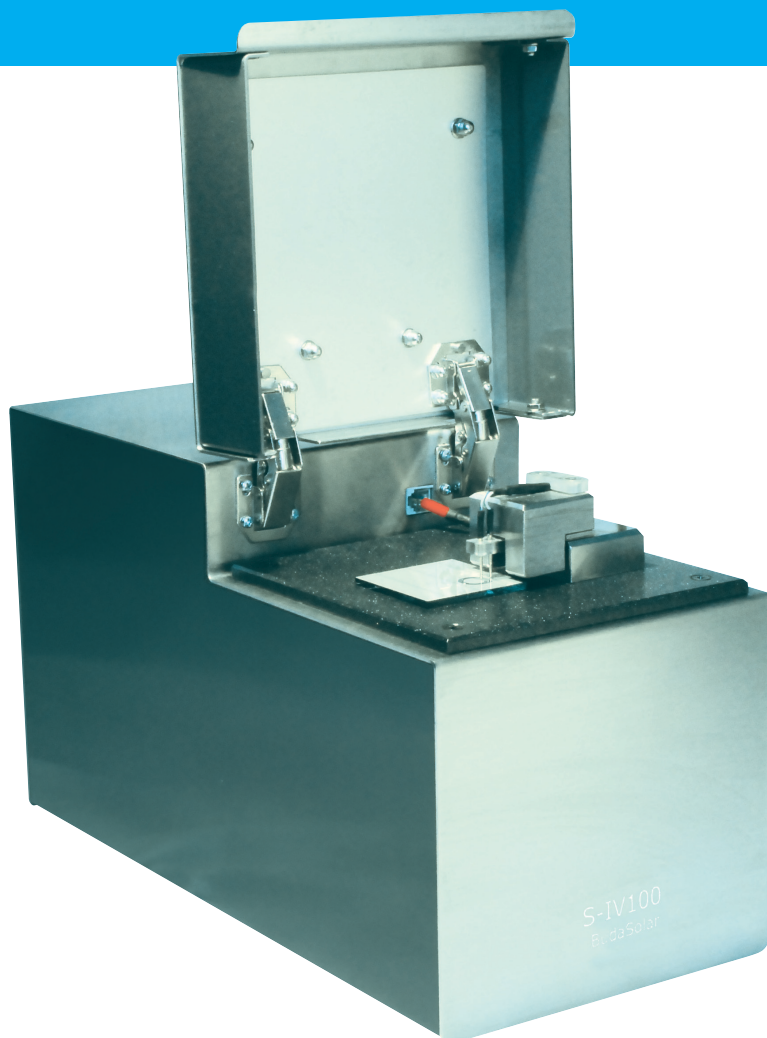


# S-IV100

**BudaSolar**  
Technologies Co. Ltd. 

Electrical characterization (I-V, C-V) of small area  $\alpha$ -Si:H PV diodes



## Main features:

- Measurements and evaluation of I-V characteristics @ AM1.5 illumination.
- Dark I-V measurement in the range of 100nA - 20mA
- Red and blue light illumination for separate measurement of C-V and  $I_{sc}$  of both diodes in tandem junction.
- Batch type, fast, automatic measurements and evaluations.
- Smart database handling and data export.
- Accessories for sample preparation. Recommended sample area: 0.5 – 1.0 cm<sup>2</sup>

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Measurement and Evaluation			
Measured and evaluated parameters	Range	Repeatibility	Accuracy
Isc	max 20mA	1.5%	+/- 3%
Voc	max 5V	0.5%	+/- 1%
Fill factor			+/- 2%
I <sub>max</sub>			+/- 3%
V <sub>max</sub>			+/- 1.5%
P <sub>max</sub>			+/- 5%
Isc of D1, D2 diode	Using secondary light sources (red and blue LEDs) with or without the bias light of the main lamp, the Isc and other features of the I-V can be evaluated for both of the diodes in tandem cells		+/- 3%

Hardware features	
Dimensions	LxWxH: 350 x 125 x 150mm
Weight	7.2kg including power supply (easily portable)
Main power	200W, AC110V-230V , 50/60Hz
Light source	
Lamp type	Halogen lamp with dichroic reflector and filters
Lamp power supply	Stabilized DC power supply
Irradiance	1000W/m <sup>2</sup> (according to IEC60904-9 Class A)
PC control	
Communication ports	USB and serial

Electronics	Range	Resolution	Accuracy
Bias Voltage	-6V to +6V	0.5mV	0.5%
Voltage ramp	DC - 1000V/s	1V/s	+/- 1%
Measured current	-20mA - +20mA	0.1μA	0.5%
Data conversion	16bits ADC	1LSB	0.5LSB
Sampling rate	100Ksample/s		
Averaging	1-256		

## Operation software and PC

- Running under Windows XP OS
- Automatic measurement control, evaluation and data correction
- Dark I-V measurement and evaluation
- Temperature correction of the measured data
- Calibration procedures

Sample type	amorphous single or multi-junction diodes
Sample area	<1cm <sup>2</sup>
Sample preparation	Isolated spot area formed with Al etchant (etching and contacting kit included)167 mm