

New functions added to VK-PV-25 PV Power Analyzer software

VK-PA-25 PV Power Analyzer

PV I-V Tracer PV MPPT 4 Quadrant I-V 4 Probe Ω Data Files Analyzer Settings Help

Current and Power vs. Voltage

Easily swap "Start" and "End" voltages by pressing this button

IV Curve Settings

Scan Start Voltage: -100 mV

Scan End Voltage: 650 mV

Scan Step Value: 20 mV

Active Area of the Cell: 0.2500 cm²

Geometric Area of the Cell: 1.0000 cm²

Incident Light Intensity: 100.000 mW/cm²

Use Ref. Cell

IV Curve Results

Open Circuit Voltage (Voc)	613.7	mV
Short Circuit Current (Isc)	2.877	mA
Short Circuit Current Density (Jsc)	11.507	mA/cm ²
Fill Factor (FF)	0.774	
Active Area Conversion Efficiency (η)	5.47	%
Geometric Area Conversion Efficiency (η)	1.37	%
Maximum power point Voltage (Vmpp)	520.6	mV
Maximum power point Current (Impp)	2.625	mA
Maximum Output Power (mW)	1.37	mW
Rs	13.803	Ω
Rsh	2330.60	Ω

Scan Settings

Current Range: ± 8 mA

Retention (Holding) Time: 500 ms

Scan Speed: 38 mV/s

Scan Time: 20 s

Advanced IV Setup

Use Advanced I-V

START

Status: Scan Time: 44.362 s Scan Speed: |

Advanced IV Setup allow user to change the scanning method as required

Advanced I-V Settings

Current and Voltage vs. Time

Advanced IV Settings

Holding Time: 7000 ms

Plot current transient data for each point

Start I vs. t Plot at: 520 mV

Total I-t plotting time: 8000 ms

of transient data: 100

Data interval: 100 ms

Continue I-V after the I-t plot

Automatically Start Reverse Curve

Holding Time: 5000 ms

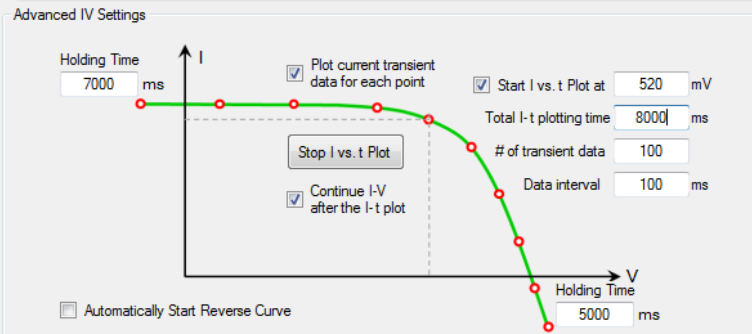
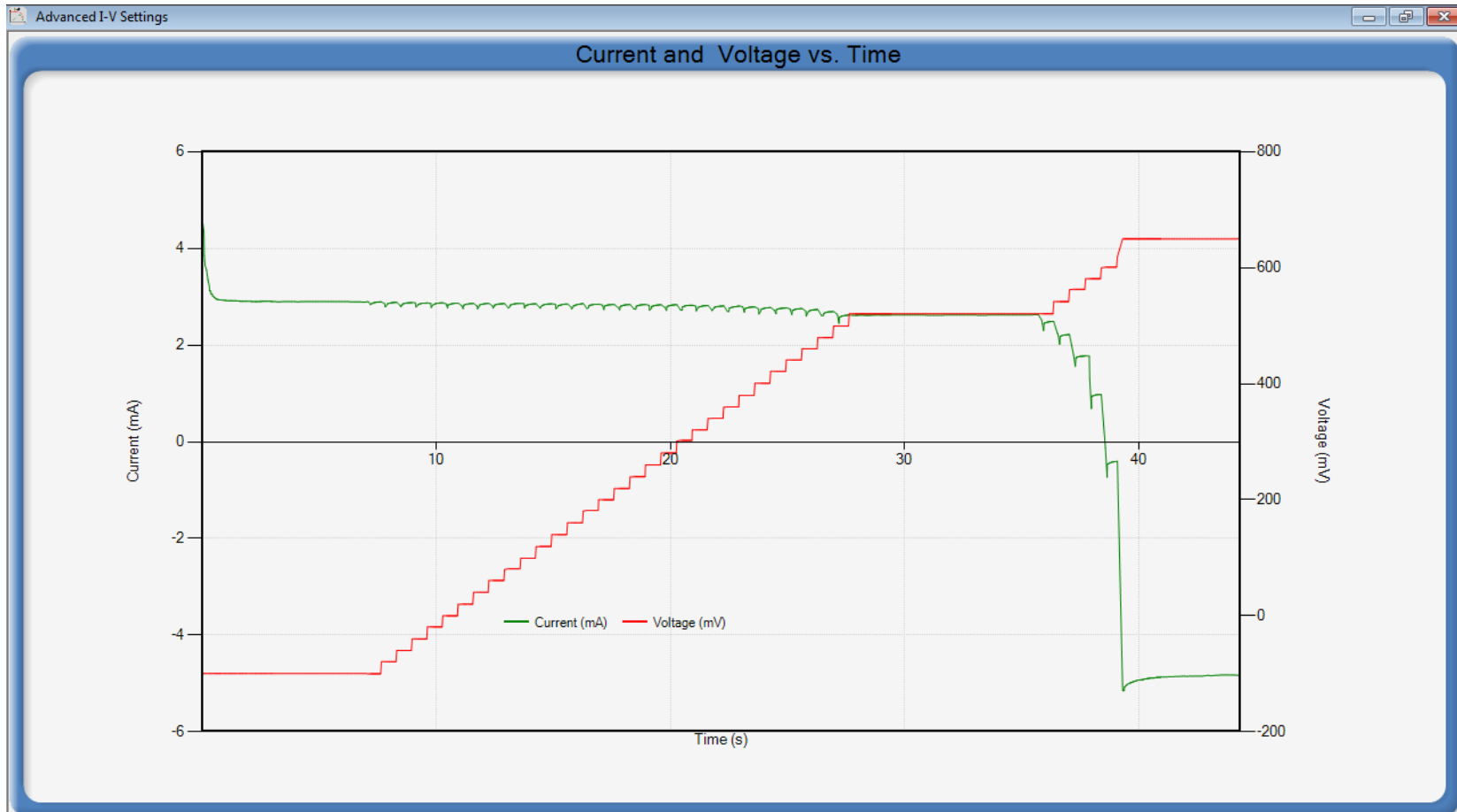
Automatically Calculate Shunt resistance and series resistance

Advanced IV Setup allow user to change various settings such as "start" point holding time, "end" point holding time, Current vs. time plot for each data point, stop IV scanning in the middle and start I vs. t plot for given time.

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MyIV (00192).xlsx - Microsoft Excel

Home Insert Page Layout Formulas Data Review View Developer Load Test Acrobat Team

Clipboard Font Alignment Number Styles Cells Editing

E25

1	VK-PA-25 PV Power Analyzer Current and Voltage vs. Time Data			VK-PA-25 PV Power Analyzer Current and Voltage vs. Time Data		
2	Date =	12/24/2015		Date =		
3	Time =	11:43 AM		Time =		
4	Comment =			Comment =		
5	Holding time near I_{sc} end =	7000.000	ms	Holding time near I_{sc} end =	0.000	ms
6	Holding time near V_{oc} end =	5000.000	ms	Holding time near V_{oc} end =	0.000	ms
7	Holding time for all other data points =	500.000	ms	Holding time for all other data points =	0.000	ms
8	I-t plot start voltage =	520	mV	I-t plot start voltage =	0	mV
9	I vs t plotting time =	8000	ms	I vs t plotting time =	0	ms
10	Number of Transient data points =	100.00		Number of Transient data points =	0.00	
11	Data Interval =	100	ms	Data Interval =	0	ms
12						
13						
14						
15						
16						
17						
18						
19	Time (s)	Voltage (mV)	Current (mA)	Time (s)	Voltage (mV)	Current (mA)
20	0.032	-99.59	4.575			
21	0.097	-99.59	4.341			
22	0.112	-99.59	3.864			
23	0.127	-99.59	3.747			
24	0.144	-99.59	3.645			
25	0.209	-99.59	3.556			
26	0.267	-99.59	3.353			
27	0.328	-99.59	3.214			
28	0.336	-99.59	3.120			
29	0.389	-99.59	3.120			
30	0.400	-99.59	3.058			
31	0.452	-99.59	3.058			
32	0.464	-99.59	3.017			

PV IV data MPPT vs. time data IV data PV I-t data PV IV Chart MPPT Chart IV Chart PV I-t Chart MPPT P vs V

Ready 100%

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Maximum Power vs. Time

Power (mW) & Current (mA) vs. Time (minutes)

Time (minutes)

Power (mW) | Voltage (mV) | Current (mA)

$V_{mpp} =$
 $I_{mpp} =$
 $V =$ $I =$

Measure Open Circuit Voltage | Measure Short Circuit Current | **Advanced MPPT Settings** | Standard MPPT | Plot Current vs. Time | OUTPUT ON

Set Voltage: -100 mV | Current Limit: 200 mA | Auto Range | Plot Data Interval: 30 s

Status: ██████████ MPP Tracking Time: HH:mm:ss | Scan Speed: ...

New "Advanced MPP tracking" function shows the power, current and voltage curves from the start point of maximum power point tracking so that user can see how it reach to maximum power point from different starting points and directions.

Maximum Power Point Tracking View

Power and Current vs. Voltage

Current (mA) vs. Voltage (mV)

Power (mW)

Current (mA) Power (mW)

MPPT Advanced Settings

MPP Searching Start Direction :

Forward Backward

mV <-- MPP Searching Range --> mV

Set to Voc

MPP Searching ΔV : mV
 MPP Tracking ΔV : mV
 Tracking Delay Time : ms

IV-Data.xlsx