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Test Report

Power Measurement PV Module

AM1.5 global, 1000 W/m², 25 °C
Manufacturer Hareon
Type HR-185W
SN HR1008162112225092 6
Test Item 3584

Protocol-No. 52533

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Measurement Results

Test Item:	3584
Manufacturer:	Hareon
Module Type:	HR-185W
Serial Number:	HR10081621122250926
Cleaned:	yes
Date:	10/20/2010 11:44:30

	Label parameters	Test results	Difference absolute	Difference relative
Maximum output power Pmpp[1)]	185 W	193.089 W	8.089 W	4.37 %
Maximum output voltage Vmpp	36.00 V	36.983 V	0.983 V	2.73 %
Maximum output current Impp	5.14 A	5.221 A	0.081 A	1.58 %
Open circuit voltage Voc	45.00 V	45.099 V	0.099 V	0.22 %
Short circuit current Isc	5.40 A	5.583 A	0.183 A	3.38 %
Module efficiency η_{module}	n/a	15.125 %	n/a	n/a
Cell efficiency η_{cell}	n/a	17.163 %	n/a	n/a
Fill Factor FF	76.15 %[2)]	76.693 %	0.545 PP[*]	0.72 %

*PP = Percentage Points

[1] Measured uncertainty for maximum output power: +/- 3 %

[2] Calculated by other labeled data

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Module Parameters

	Data by customer	Data by Photon
Test item:		3584
Manufacturer:	Hareon	
Module type:	HR-185W	
Serial number:	HR10081621122250926	
Dimensions:	1580 x 808 x 45 mm	
Weight:	16 kg	
Cell technology:	mono-crystalline-Si	
Series Cells:		72
Parallel Cells:		1

Measurement Parameters

Standard:	IEC 60904-3
Sun simulator:	Pasan Sun Simulator IIIb MFG 502 (Class A)
Power Meter:	Pasan Ref. BV 66
Monitor cell:	MTP 2676-4
Module Temperature:	24.3°C
Irradiation:	1002 W/m²
Correction:	Results corrected to 25°C and 1000 W/m²
	No spectral mismatch correction
Operator:	Dipl.-Ing. René Düpont

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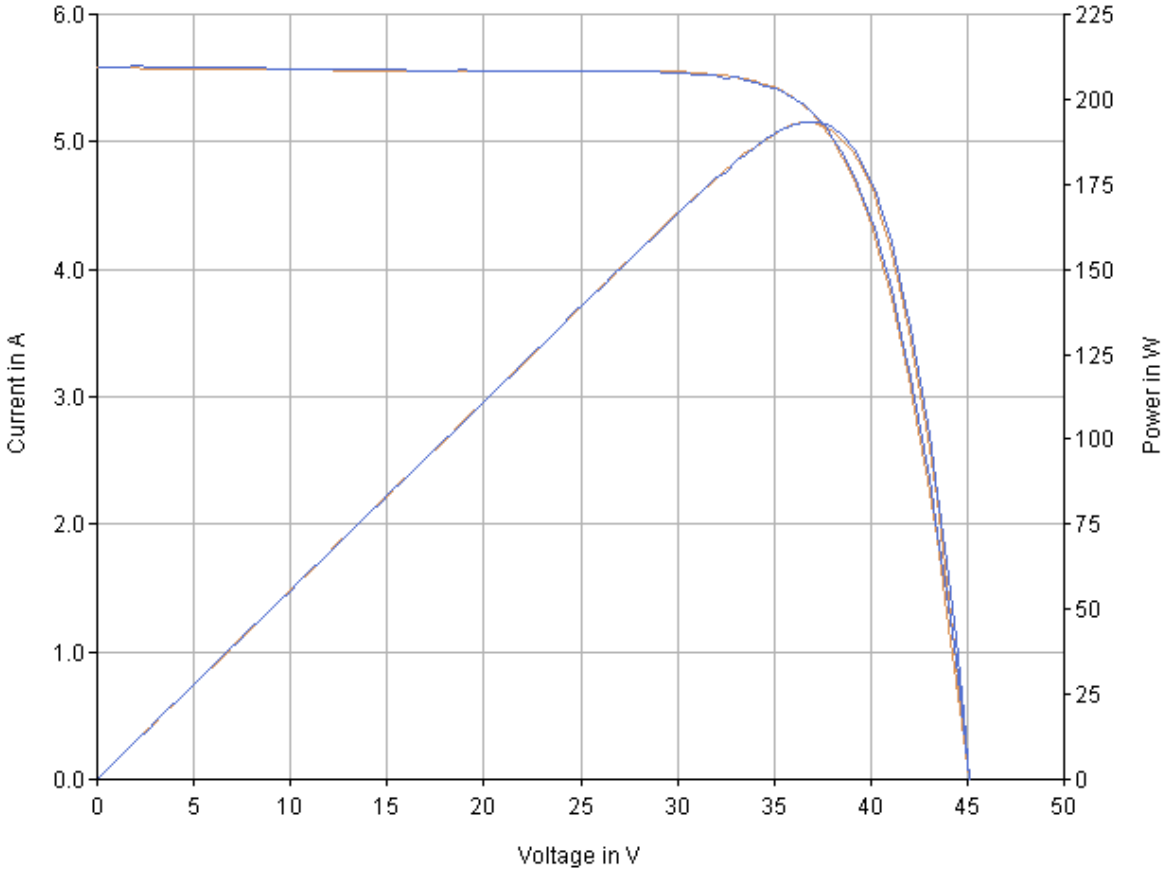
I-V-Record



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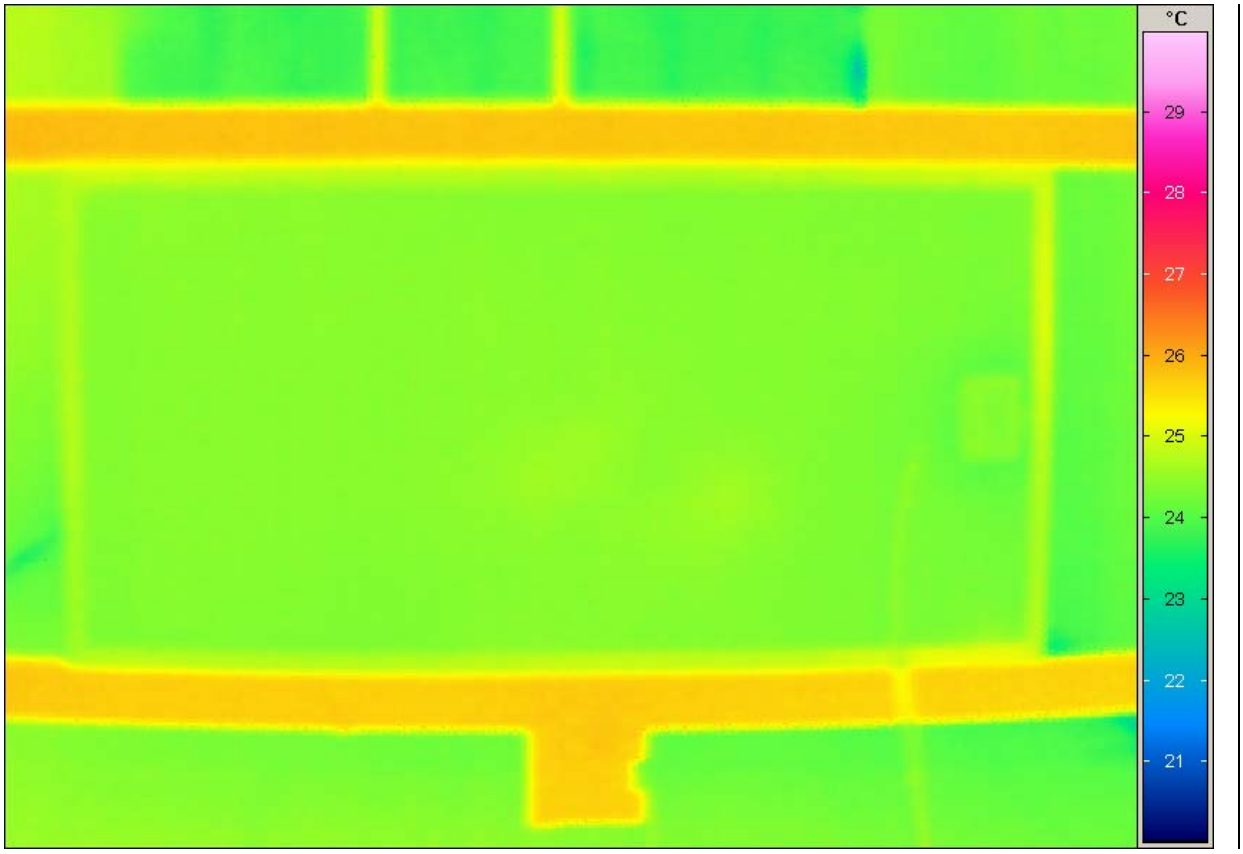
Module Temperature Uniformity



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