

Benchmark II SPP390-420DH7H







390-420W MWT Module

Mono-like Half-cut 72 Cells

20.5%

Module efficiency up to 20.5%

Benchmark MWT PV Module

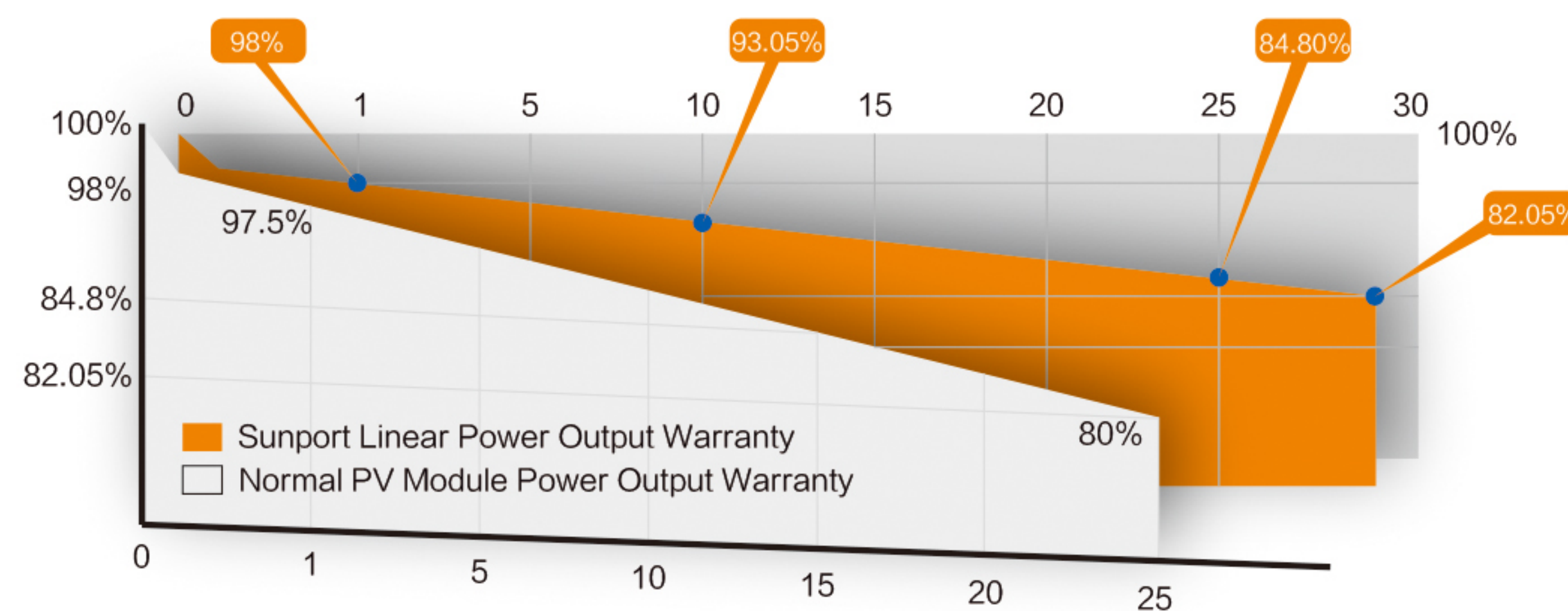
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Higher Efficiency
 The highest efficiency of the series is up to 20.5%.
- 
Lower Degradation
 At least 98% of the initial effective output at the 1st year and 82% at the 30th year.
- 
Higher Yield
 Higher power generation on the same installation.
- 
Corrosion-Resistant
 Certified for Ammonia Resistance and Salt Mist Corrosion .
- 
Anti-PID
 Certified for Anti-PID under 85°C/85%RH, for 288hrs.
- 
Heat-Resistant
 Remain peak performance in hot days (-0.36%/°C) .

Reinsurance Coverage for 30 Years

- The "conductive foil line" and metal foil greatly improved the performance and reliability.
- The PCB packaging technology avoids soldering lines of conventional module, reducing 2-4% of package loss.

12 Years
Quality
Warranty

30 Years
Performance
Warranty



Comprehensive Qualifications & Certifications

- ★ IEC 61215, IEC 61730, IEC 61701, IEC 62716, IEC 60068-2-68.
- ★ CQC&CGC Top Runner Advanced Technology Certification (4A class)
- ★ ISO 9001: 2015 Quality Management System
- ★ ISO 14001: 2015 Environment Management System
- ★ OHSAS 18001: 2007 Occupation Health Safety Management System
- ★ TUV NORD and UK NQA Quality System Certification



Jiangsu Sunport Power Corp.,Ltd

Add: No.20, Xishi Road, Xinwu District, Wuxi,China

Tel: (86)25-86110739 (86)510-81123328

Web: www.sunportpower.com



Electrical Characteristics at Standard Test Conditions(STC)

Spec/Model	Unit	SPP390DH7H	SPP395DH7H	SPP400DH7H	SPP405DH7H	SPP410DH7H	SPP415DH7H	SPP420DH7H
Max-Power(P _m)	W	390	395	400	405	410	415	420
Power Tolerance	%	0~+3%						
Max-Power Voltage(V _m)	V	39.4	39.6	39.8	40.0	40.2	40.4	40.6
Max-Power Current(I _m)	A	9.90	9.97	10.05	10.13	10.20	10.27	10.35
Open-Circuit Voltage(V _{oc})	V	47.8	48.0	48.2	48.4	48.7	48.9	49.1
Short-Circuit Current(I _{sc})	A	10.52	10.57	10.62	10.68	10.72	10.76	10.80
Module Efficiency(η _m)	%	19.0	19.2	19.5	19.7	20.0	20.2	20.5

STC:AM=1.5, Irradiation 1000W/m², Module Temperature 25°C

Electrical Characteristics at Nominal Module Operating Temperature (NMOT)

Spec/Model	Unit	SPP390DH7H	SPP395DH7H	SPP400DH7H	SPP405DH7H	SPP410DH7H	SPP415DH7H	SPP420DH7H
Max-Power(P _m)	W	291	295	299	303	307	311	315
Max-Power Voltage(V _m)	V	36.1	36.3	36.5	36.7	36.9	37.1	37.3
Max-Power Current(I _m)	A	8.06	8.13	8.19	8.26	8.32	8.38	8.45
Open-Circuit Voltage(V _{oc})	V	43.4	43.6	43.8	44.0	44.3	44.5	44.7
Short-Circuit Current(I _{sc})	A	8.65	8.69	8.73	8.79	8.82	8.86	8.90

NMOT: Irradiation 800W/m², ambient temperature 20°C, Wind Speed 1m/s

Temperature Coefficient

Nominal Module Operating Temperature	43 ± 2°C
Temperature coefficient of P _{max}	-0.36%/°C
Temperature coefficient of V _{oc}	-0.28%/°C
Temperature coefficient of I _{sc}	0.06%/°C

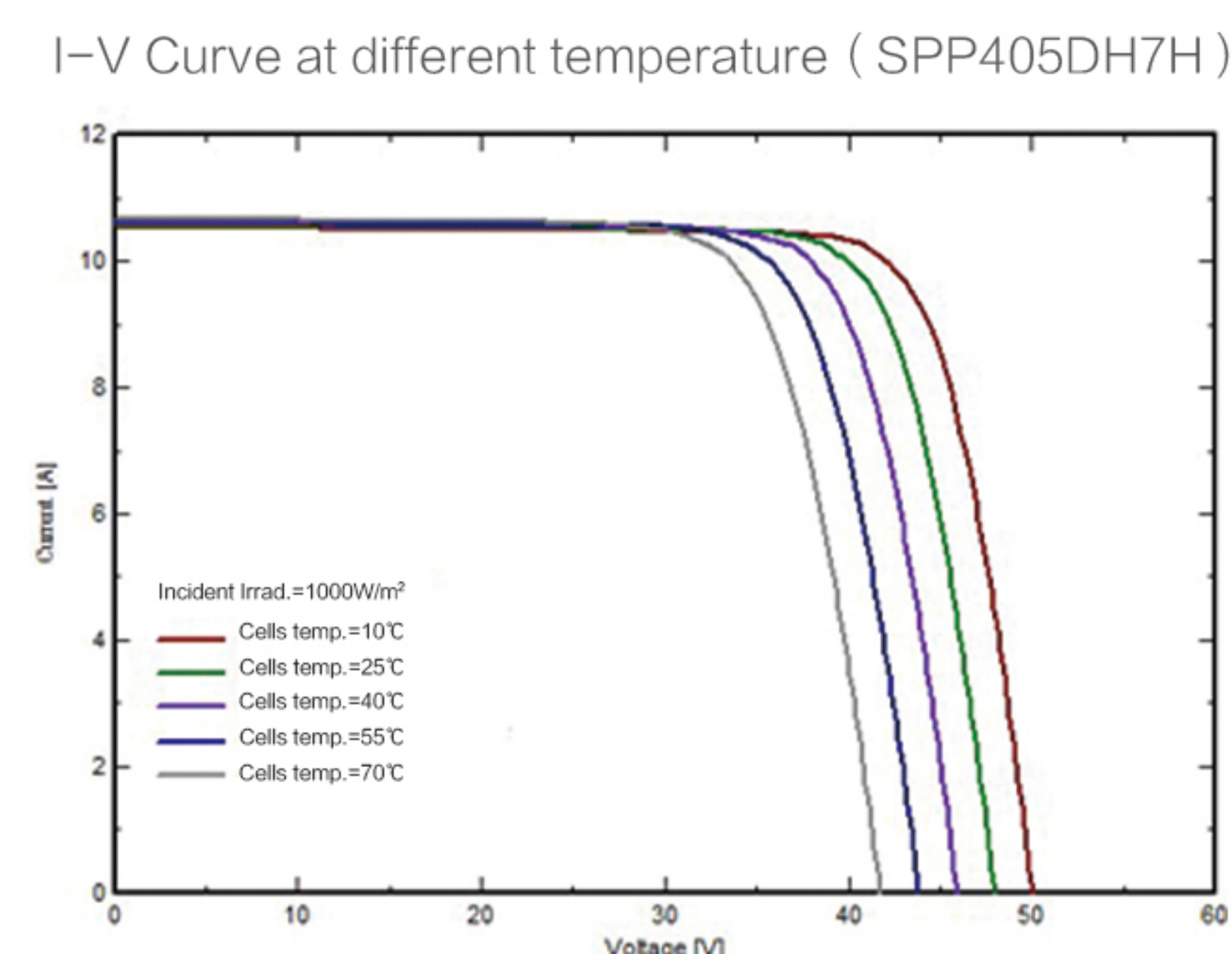
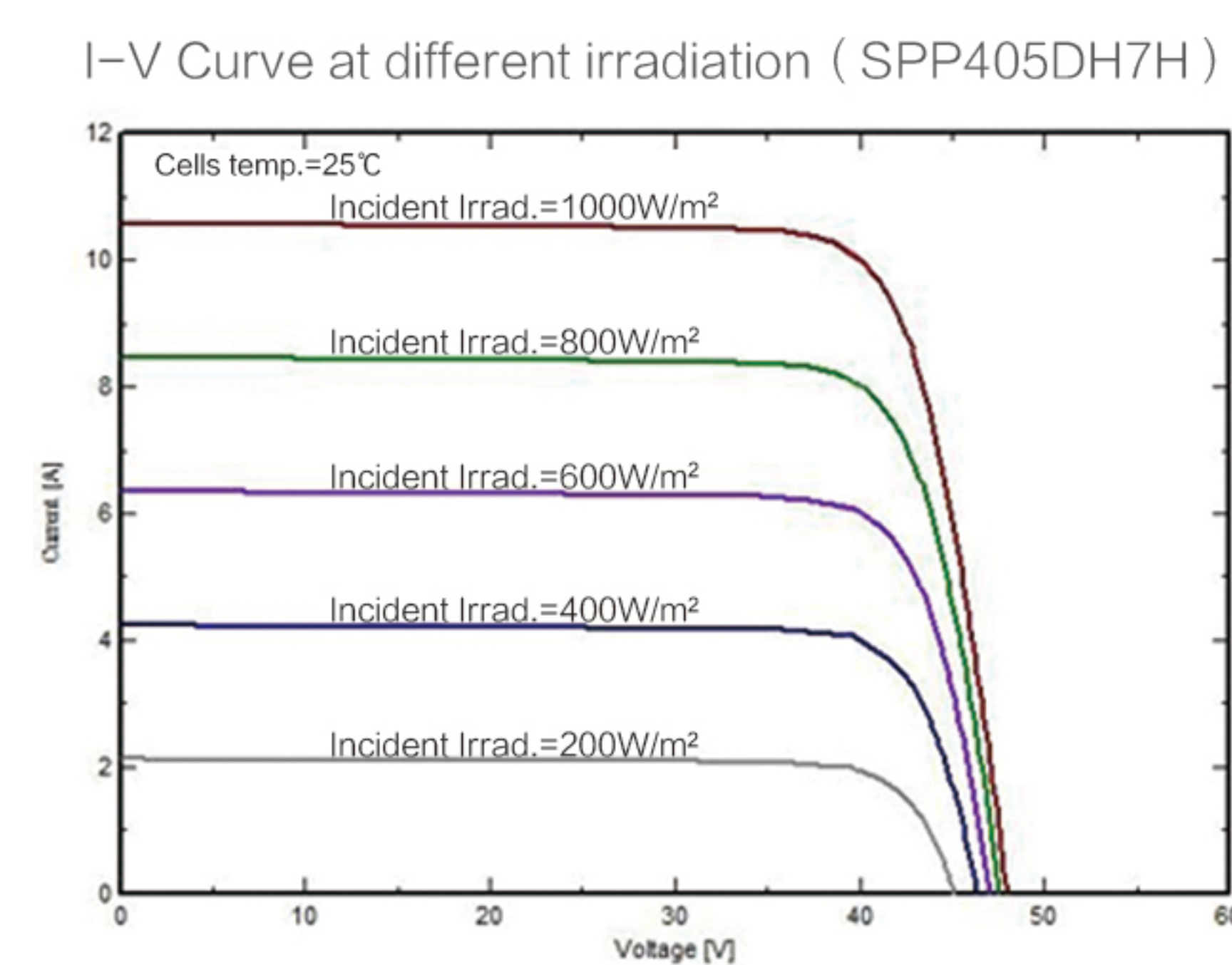
Package

Container Size	Quantity(pcs)	Quantity(pallet)
20' GP	/	/
40' HC	572/616	22

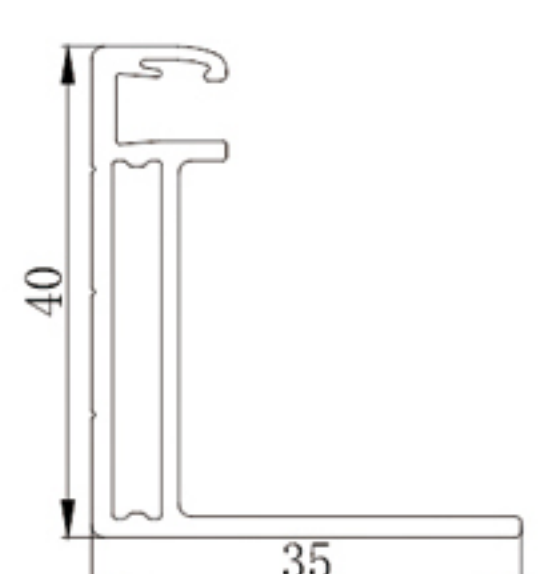
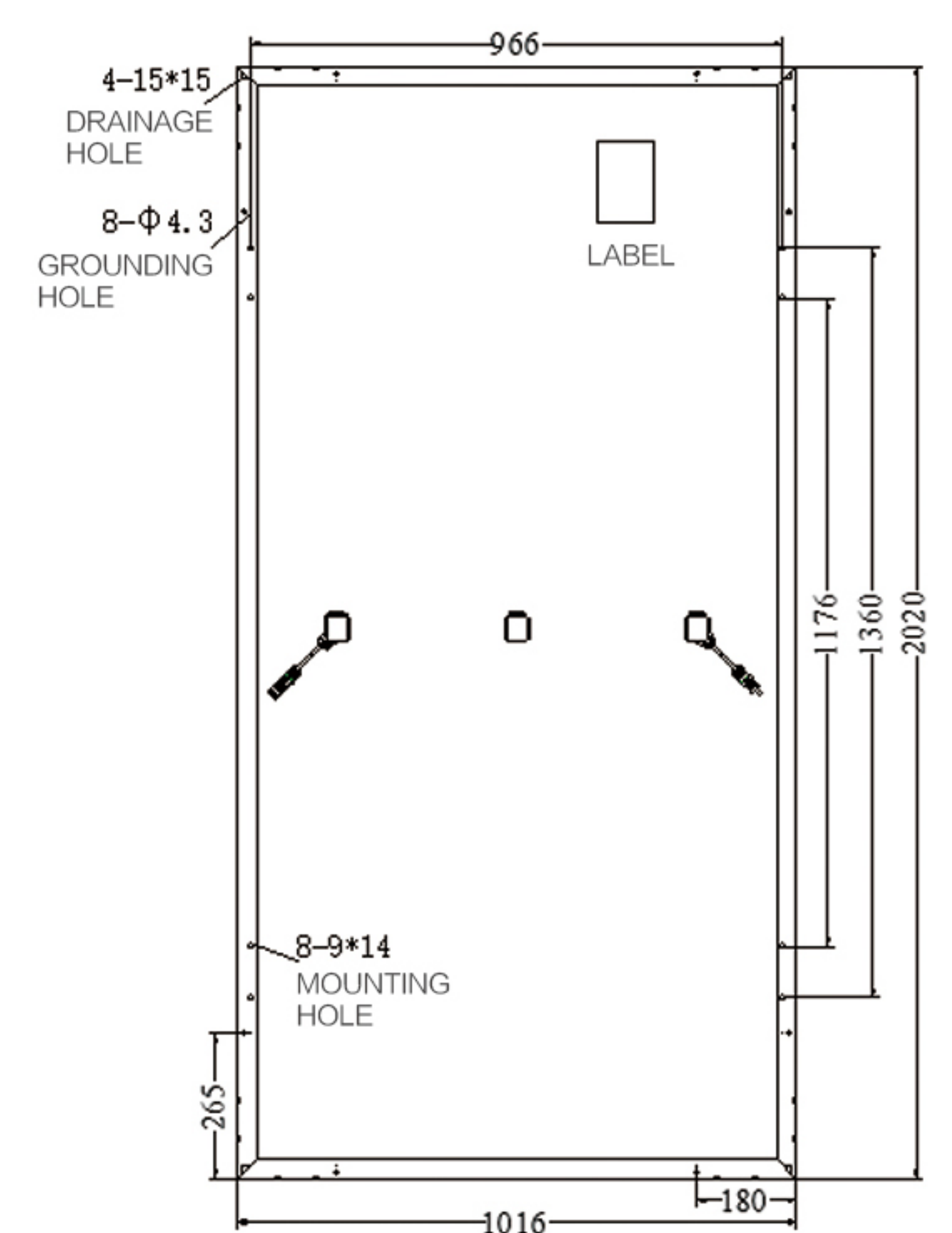
Mechanical Property

Dimension(L × W × H)	2020mmx1016mmx40mm
Weight	23.5kg
Glass Type	High Transmittance Anti-reflective Coated Tempered Glass /3.2mm
Solar Cell	144(24x6)/Poly/ 6inches
Encapsulant	EVA
Frame	Anodized Aluminum Alloy / Silver
Junction Box	IP67 & IP68
Cable	300mm / 4mm ²
Connector	MC4 Compatible

I-V Curve



Module Size



Operating Conditions

Max System Voltage	DC1000V/1500V(TUV)
Max Fuse Rated Current	15A
Operating Temperature Range	-40°C ~ +85°C
Mechanical Load	5400Pa/2400Pa
Max Allowable Hail Load	φ 25mm hail, from 1m of distance at 23 m/s
Application Class	Class A

