Benchmark II SPP290--320M60S

290-320W High Efficiency Flexible PV Module
Mono 60 Cells

Flexible PV Module

Flexible
Flexible polymer materials and MWT PCB packaging technology.

High efficiency
The highest efficiency of the series is up to 19.5%.

Ultra thin
The PV Module thickness is only 1.4mm.

Light weight
Weight is reduced by more than 70%.

Easy Installation
Installation cost is reduced by about 50%.

Attractive design
Specially designed grid feature, nice-looking.

Heat-Resistant
Temperature coefficiency is low to -0.36%/℃. More power output in hot environment.

Anti-PID
With specific treatment, PV module passed strict PID test, no PID risk.

MWT Back Contact Solar Cell

- New cell structure and different manufacturing process.
- No bus-bar on the front. 3% less shadow and better use of sunlight.
- Effectively avoid the micro crack caused by the pressure between cell edge and ribbon.
- Compatible with other cell types including PERC, HIT, Black Silicon etc.

Insured by PICC

PICC

Comprehensive System & Product Certification

★ISO 9001：2015 Quality Management System
★ISO 14001：2015 Environment Management System
★OHSAS 18001：2007 Occupation Health Safety Management System
★TUV NORD Certification

nqa ISO 9001 Registered
nqa ISO 14001 Registered Environmental Management
nqa OHSAS 18001 HEALTH & SAFETY MANAGEMENT
TUV NORD Type Tested

VMJ lighting VELITRONIC ELEKTRO

Typical Electrical Characteristics at Standard Test Conditions(STC)

Spec / Model	Unit	SPP290M60S	SPP295M60S	SPP300M60S	SPP305M60S	SPP310M60S	SPP315M60S	SPP320M60S
Max-Power(Pm)	W	290	295	300	305	310	315	320
Power Tolerance	%	0~+3%						
Max-Power Voltage(Vm)	V	31.2	31.4	31.6	31.8	32.0	32.2	32.4
Max-Power Current(Im)	A	9.30	9.40	9.50	9.60	9.69	9.79	9.88
Open-Circuit Voltage(Voc)	V	38.4	38.6	38.8	39.0	39.2	39.4	39.6
Short-Circuit Current(Isc)	A	9.50	9.58	9.66	9.74	9.82	9.90	9.98
Module Efficiency(ηm)	%	17.6	18.0	18.3	18.6	18.9	19.2	19.5

STC:AM=1.5, Irradiance 1000W/m², Module Temperature 25℃

Typical Eletrical Characteristics at Nominal Module Operating Temperature (NMOT)

Spec / Model	Unit	SPP290M60S	SPP295M60S	SPP300M60S	SPP305M60S	SPP310M60S	SPP315M60S	SPP320M60S
Max-Power(Pm)	W	216	220	224	228	232	236	240
Max-Power Voltage(Vm)	V	28.5	28.7	28.9	29.1	29.3	29.5	29.7
Max-Power Current(Im)	A	7.58	7.67	7.76	7.84	7.93	8.01	8.09
Open-Circuit Voltage(Voc)	V	35.5	35.6	35.7	35.8	35.9	36.0	36.1
Short-Circuit Current(Isc)	A	7.65	7.74	7.85	7.93	8.04	8.12	8.22

NMOT:Irradiance 800W/m2, Ambient Temperature 20℃, wind speed 1m/s

Thermal Characteristics

Nominal Module Operating Temperature	43±2℃
Temperature coefficient of Pmax	-0.36%/℃
Temperature coefficient of Voc	-0.28%/℃
Temperature coefficient of Isc	0.06%/℃

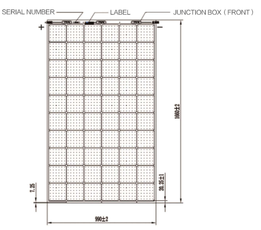
Operating Conditions

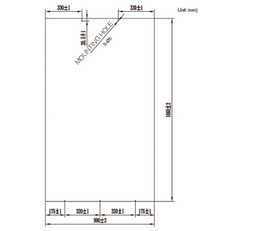
Max. system voltage	DC1000V(IEC)
Max. series fuse rating	15A
Operating temperature range	-40℃~+85℃
Bending radius	≥0.20m

Mechanical Characteristics

Dimension(L×W×H)	1660mmx990mmx1.4mm
Weight	4.0 kg
Back material	Backplane(white, transparent, black)
Cell (quantity/material/type/dimensions)	60(10x6)/ Monocrystalline-PERC/6 inches
Encapsulant (material)	EVA
Frame	None
Junction box(protection degree)	IP68
Cable (length/cross-section area)	Customize by customer/4mm2
Connector	MC4 Compatible

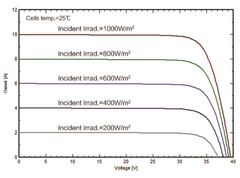
Dimensions



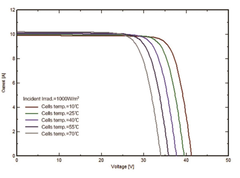


I-V Curves

I-V Curves of SPP310M60S1 at different irradiance



I-V Curves of SPP310M60S1 at different cell temperature



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