



## Benchmark II SPP310-350N60

### 310-350W MWT Module

### Mono 60 Cells

Australian Version

Manufactured in China

# 20.51%

Module efficiency up to 20.51%

### MWT 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 and LLOYD'S

**PICC** **LLOYD'S**

### Comprehensive Qualifications & Certifications

- ★ IEC 61215, IEC 61730.
- ★ 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



### Benchmark MWT PV Module



#### Higher Efficiency

The highest efficiency of the series is up to 20.51%.



#### Higher Yield

Higher power generation on the same installation.



#### Lower Degradation

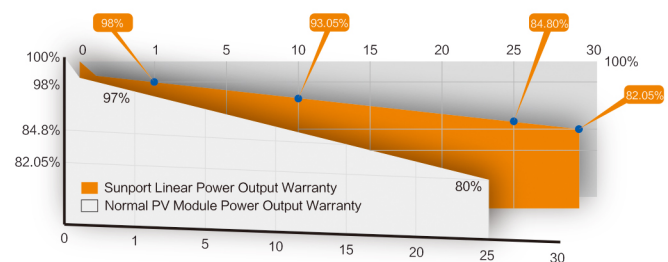
At least 98% of the initial effective output at the 1<sup>st</sup> year and 82.05% at the 30<sup>th</sup> year.



#### Heat-Resistant

Remain peak performance in hot days thanks to the improved temperature coefficient as low as  $-0.36\%/^{\circ}\text{C}$ .

### 30 Years Performance Warranty



## Electrical Characteristics at Standard Test Conditions(STC)

Spec/Model	Unit	SPP310N60	SPP315N60	SPP320N60	SPP325N60	SPP330N60	SPP335N60	SPP340N60	SPP345N60	SPP350N60
Max-Power(Pm)	W	310	315	320	325	330	335	340	345	350
Power Tolerance	%	0~+3%								
Max-Power Voltage(Vm)	V	31.7	31.9	32.1	32.3	32.5	32.7	32.9	33.1	33.3
Max-Power Current(I <sub>m</sub> )	A	9.78	9.87	9.97	10.06	10.15	10.24	10.33	10.42	10.51
Open-Circuit Voltage(Voc)	V	39.2	39.4	39.6	39.8	40.0	40.2	40.4	40.6	40.7
Short-Circuit Current(I <sub>sc</sub> )	A	10.31	10.38	10.46	10.53	10.58	10.64	10.66	10.67	10.69
Module Efficiency(η <sub>m</sub> )	%	18.16	18.45	18.75	19.04	19.33	19.63	19.92	20.21	20.51

STC:AM=1.5, Irradiation 1000W/m<sup>2</sup>, Module Temperature 25°C

## Electrical Characteristics at Nominal Module Operating Temperature (NMOT)

Spec/Model	Unit	SPP310N60	SPP315N60	SPP320N60	SPP325N60	SPP330N60	SPP335N60	SPP340N60	SPP345N60	SPP350N60
Max-Power(Pm)	W	232	236	240	244	248	252	256	260	264
Max-Power Voltage(Vm)	V	29.0	29.2	29.4	29.6	29.8	30.0	30.2	30.4	30.6
Max-Power Current(I <sub>m</sub> )	A	8.00	8.08	8.16	8.24	8.32	8.40	8.48	8.55	8.63
Open-Circuit Voltage(Voc)	V	35.8	36.0	36.2	36.4	36.6	36.8	37.0	37.2	37.4
Short-Circuit Current(I <sub>sc</sub> )	A	8.44	8.52	8.58	8.64	8.69	8.74	8.79	8.84	8.86

NMOT: Irradiation 800W/m<sup>2</sup>, ambient temperature 20°C, Wind Speed 1m/s

## Temperature Coefficient

Nominal Module Operating Temperature	43 ± 2°C
Temperature coefficient of P <sub>max</sub>	-0.36%/°C
Temperature coefficient of Voc	-0.28%/°C
Temperature coefficient of I <sub>sc</sub>	0.06%/°C

## Package

Container Size	Quantity(pcs)	Quantity(pallet)
20' GP	180	6
40' GP	390	13
40' HC	780	26

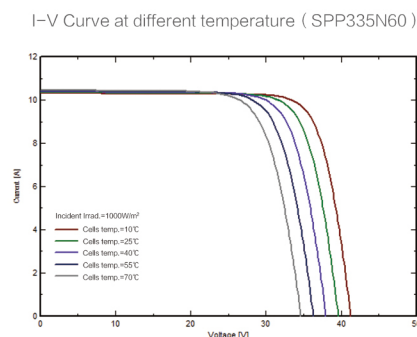
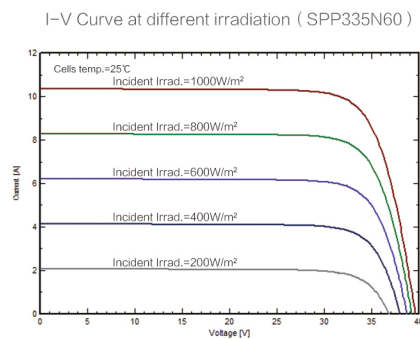
## Mechanical Property

Dimension(L × W × H)	1680mm×1016mm×35mm
Weight	19.5kg
Glass Type	High Transmittance Anti-reflective Coated Tempered Glass /3.2mm
Solar Cell	60(10x6)/Mono/ 6inches
Encapsulant	EVA
Frame	Anodized Aluminum Alloy / Silver
Junction Box	IP67
Cable	1000mm / 4mm <sup>2</sup>
Connector	TL-CABLE01 TL-CABLE01S QC4.10

## Operating Conditions

Max System Voltage	DC1000V(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

## I-V Curve



## Module Size

