

**465W**

Maximum output power

**0~+5W**

Power tolerance

**SOLAR MODULE TYPE**

**DE-60M10HC 450W-465W**

**EUROPEAN STANDARDS**

- Higher output power, based on M10-182mm solar cells.
- Higher module quality ensures long-term reliability
- Ultra high cost-efficiency , high-efficiency solar module.
- Optimized electrical design and lower operating current for reduced hot spot loss and better temperature coefficient.
- MBB Technology, better light trapping and current collection to improve module power output and reliability.
- Excellent Anti-PID performance guarantee via optimized mass-production process and materials control



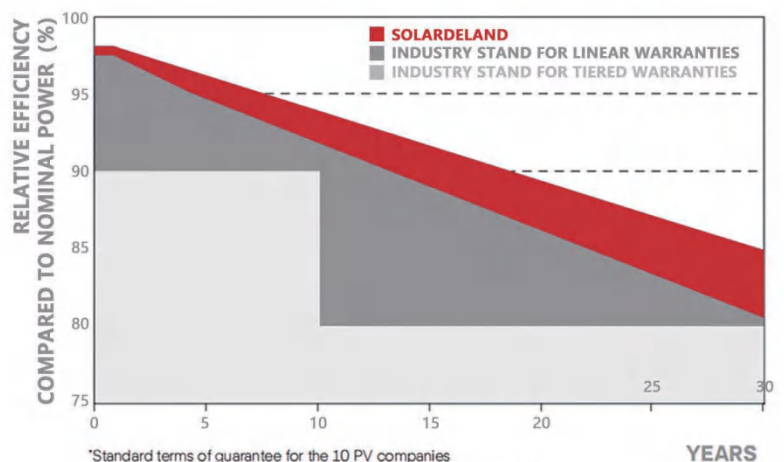
**PRODUCT WARRANTY**

12 YEARS PRODUCT WARRANTY

30 YEARS PERFORMANCE GUARANTEE



**LINEAR PERFORMANCE WARRANTY**



\*Standard terms of guarantee for the 10 PV companies with the highest production capacity in 2014 (as at: September 2014)



**Electrical Characteristics**

STC : AM1.5 1000W/m<sup>2</sup> 25°C

NOCT : AM1.5 800W/m<sup>2</sup> 20°C 1m/s

Test uncertainty for Pmax: ±3%

Module Type	DE-60M10HC450W		DE-60M10HC455W		DE-60M10HC460W		DE-60M10HC465W	
	STC	NOCT	STC	NOCT	STC	NOCT	STC	NOCT
Maximum Power (Pmax/W)	450Wp	335Wp	455Wp	339Wp	460Wp	343Wp	465Wp	347Wp
Voltage at Maximum Power (Vmp/V)	33.91V	31.73V	34.06V	31.91V	34.20V	32.07V	34.33V	32.23V
Current at Maximum Power (Imp/A)	13.27A	10.55A	13.36A	10.61A	13.45A	10.67A	13.55A	10.77A
Open Circuit Voltage (Voc/V)	41.18V	38.87V	41.33V	39.01V	41.48V	39.15V	41.63V	39.31V
Short Circuit Current (Isc/A)	13.85A	11.19A	13.93A	11.25A	14.01A	11.32A	14.31A	11.36A
Module Efficiency(%)	20.90%		21.08%		21.32%		21.50%	

**Mechanical Parameters**

Cell Orientation	6*20 (120) solar half cells
Junction Box	IP 68 3 diodes
Output Cable	4.0mm <sup>2</sup> solar cable(IEC) (+)≥350mm (-)≥350mm or customized
Glass	3.2mm, High Transmission, AR Coated Heat Strengthened Glass
Frame	35mm Anodized Aluminium Alloy
Weight	23.0kg
Dimension	1903*1134*35mm
Packaging	31pcs/pallets,744pcs/ 40HQ Container

**Mechanical Loading**

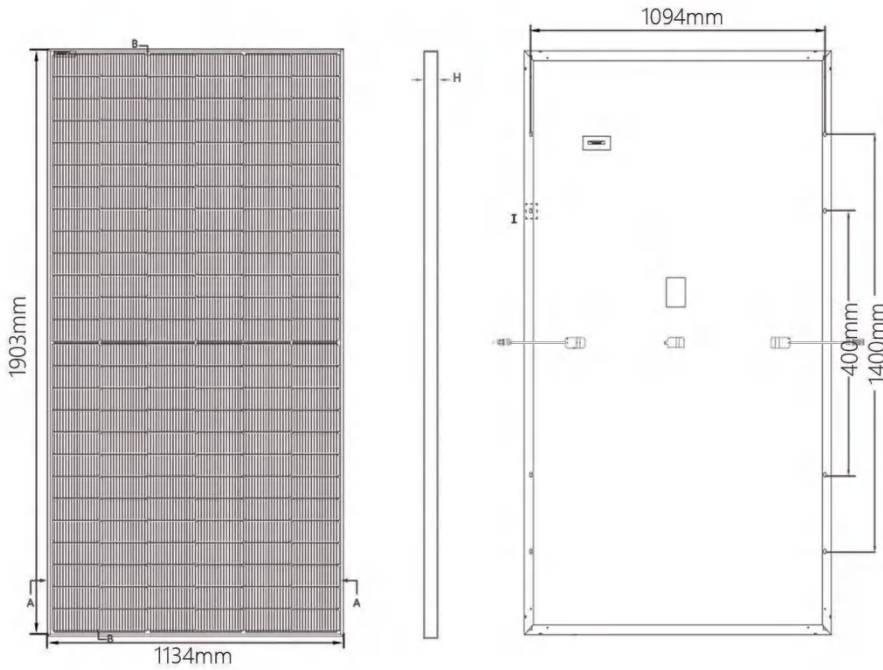
Front Side Maximum Static Loading	5400Pa
Rear Side Maximum Static Loading	2400Pa
Hailstone Test	25mm Hailstone at the speed of 23m/s

**Operating Parameters**

Operational Temperature	-40~+85 °C
Power Output Tolerance	0~5W
Voc and Isc Tolerance	±3%
Maximum System Voltage	1000/1500VDC(IEC)
Maximum Series Fuse Rating	25A
Nominal Operating Cell Temperature	45±2°C
Protection Class	Class II
Fire Rating	UL type 1 or 2 IEC Class C

**Temperature Ratings (STC)**

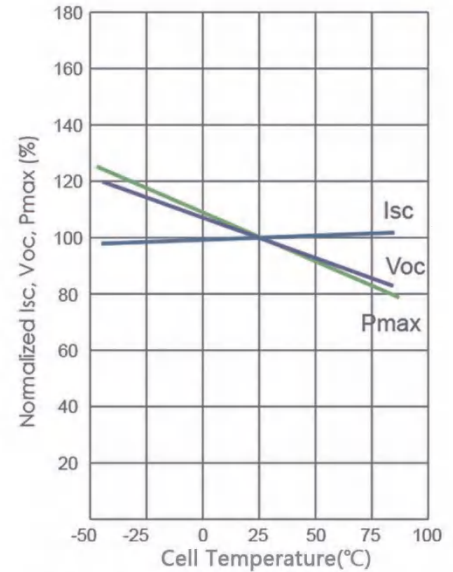
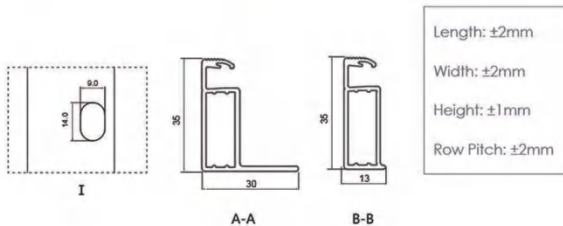
Temperature Coefficient of Isc	0.048%/°C
Temperature Coefficient of Voc	-0.28%/°C
Temperature Coefficient of Pmax	-0.35%/°C



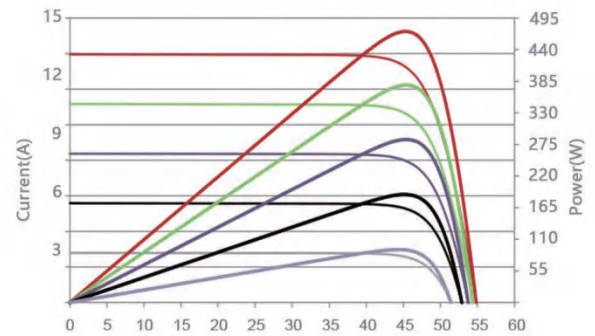
Front

Side

Back



Temperature Dependence of Isc, Voc, Pmax



Current-Voltage & Power-Voltage Curves