



<b>Manufacture</b>	<b>NINGBO SOLAR ELECTRIC POWER CO., LTD.</b>
<b>Model</b>	<b>TDB125x125-72-P</b>
<b>Power</b>	<b>150W</b>

TDB series silicon solar modules use breakthrough technology perfected by Ningbo Solar's nearly 40 years of manufacturing technology, designed strictly according to IEC61215 standard. These modules use a textured cell surface and tempered glass for solar use only to reduce reflection of sunlight. An anti-reflective coating provides a uniform blue color and increases the absorption of light in all weather conditions. Sun-earth brand solar modules have the following advantages:

Long service life: The modules can serve for at least 25 years.

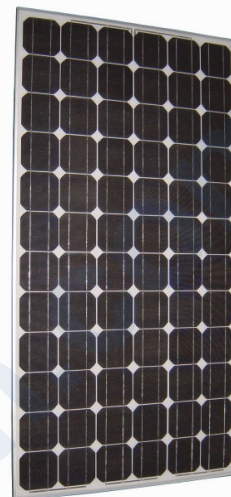
Good encapsulated performance: It can resist corrosion caused by rain, water and gas etc.

Safely and reliable: No maintenance needed and having steady and reliable electric performance.

Good anti-shocking performance: It can resist hail and work under atrocious weather that temperature changes quickly.

Convenient installation: It can be installed according to customer's requirement. Installation period is short and workload is small.

Favorable characteristics: Silicon solar cells have stable electric characteristics and full peak power. Testing results comply with national standards.



TDB series solar modules have applied in many areas, such as building roofs, photovoltaic power plants of different scales, telecommunication, electric power, weather stations, broadcast and television, petroleum, navigation marks, railways and road, etc. Our products have exported to Occident, Africa and Southeast Asia, etc and have good reputation among the whole world.



Sun-Earth brand solar modules installed at mountain with altitude more than 5000M.



Sun-Earth brand solar modules were widely used in European photovoltaic power plants.



Sun-Earth brand solar modules applied in telecommunication stations.

Hail test:  $227 \pm 2g$  steel ball fall to the surface of cell from 100cm high. The appearance is normal, and the electric characteristic according to the requirement as well.

Electrical Characteristics		
Maximum Power (Pmax)	150W	Watt
Power Tolerance	±5	%
Maximum Power Voltage (Vmp)	34.2	Volt
Maximum Power Current (Imp)	4.39	Ampere
Open circuit Voltage (Voc)	43.2	Volt
Short circuit Current (Isc)	5.1	Ampere
Maximum System Voltage	600V(U.S. & IEC 61215 rating) 750V (TüV Rheinland rating)	
Module Efficiency ( $\eta_m$ )	11.7	%
Temp. coefficient Voc	-0.35±0.02	%/°C
Temp. coefficient Isc	+0.04±0.0015	%/°C
Temp. coefficient Power	-0.5±0.05	%/°C
Nominal operating cell temperature (NOCT)	47°C±2°C	°C

Cells		
Brand Name of Solar Cells	Sun-Earth	
Cell Type	Single Crystal Cell	
Cell Size	125*125	mm
Cell Shape	Quasi Square	
Number Cells	72	in series
Encapsulated Solar Cells Efficiency ( $\eta_c$ )	14.0	%

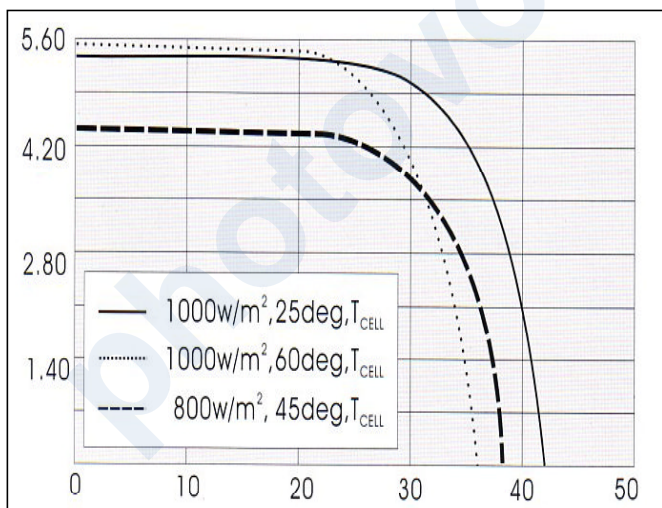
Standard Test Conditions	
AM	1.5
Irradiation	1000 W/m <sup>2</sup>
Tc	25 °C

Mechanical Characteristics			
Dimensions	Lenght (mm)	1580	mm
	Width (mm)	808	mm
	Depth (mm)	46	mm
Installation Dimensions	Lenght (mm)	1176	mm
	Width (mm)	737	mm
Weight(kg)		16	Kg
Frame structure (Material, Corners)		Aluminium	
Front side		Glass	
Front glass thickness		3.2	mm
Encapsulant		EVA	
Back side		TPT	
Junction Box		Sun-Earth	

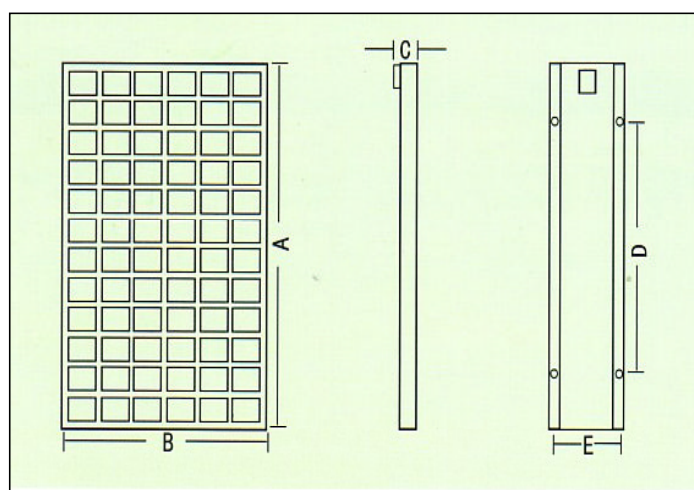
Packing/ Transport Information		
Packing configuration	10	pcs per carton
Size of Carton	1630*550*900	mm
Weight of Carton	9	Kg
Cartons per 20' container	24(x 10pcs)	cartons (x modules)
Cartons per 40' container	56(x 10pcs)	cartons (x modules)

Absolute Maximum Ratings		
Operating Temperature	-40°C ~ +90°C	°C
Storage Temperature	-40°C ~ +90°C	°C
Dielectric Isolation Voltage	1000	VDC max 1000V
Maximum Wind Resistance	60m/s	N/m <sup>2</sup> or max Km/h
Maximum Load Capacity	200	Kg/m <sup>2</sup>
Maximum Hail diameter @ 80Km/h	25mm	@ 80Km/h

### Current-Voltage Curves



### Module Drawing with measures



A: 1580MM B: 808MM C:46MM D:1176±2MM E: 737±2MM

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