



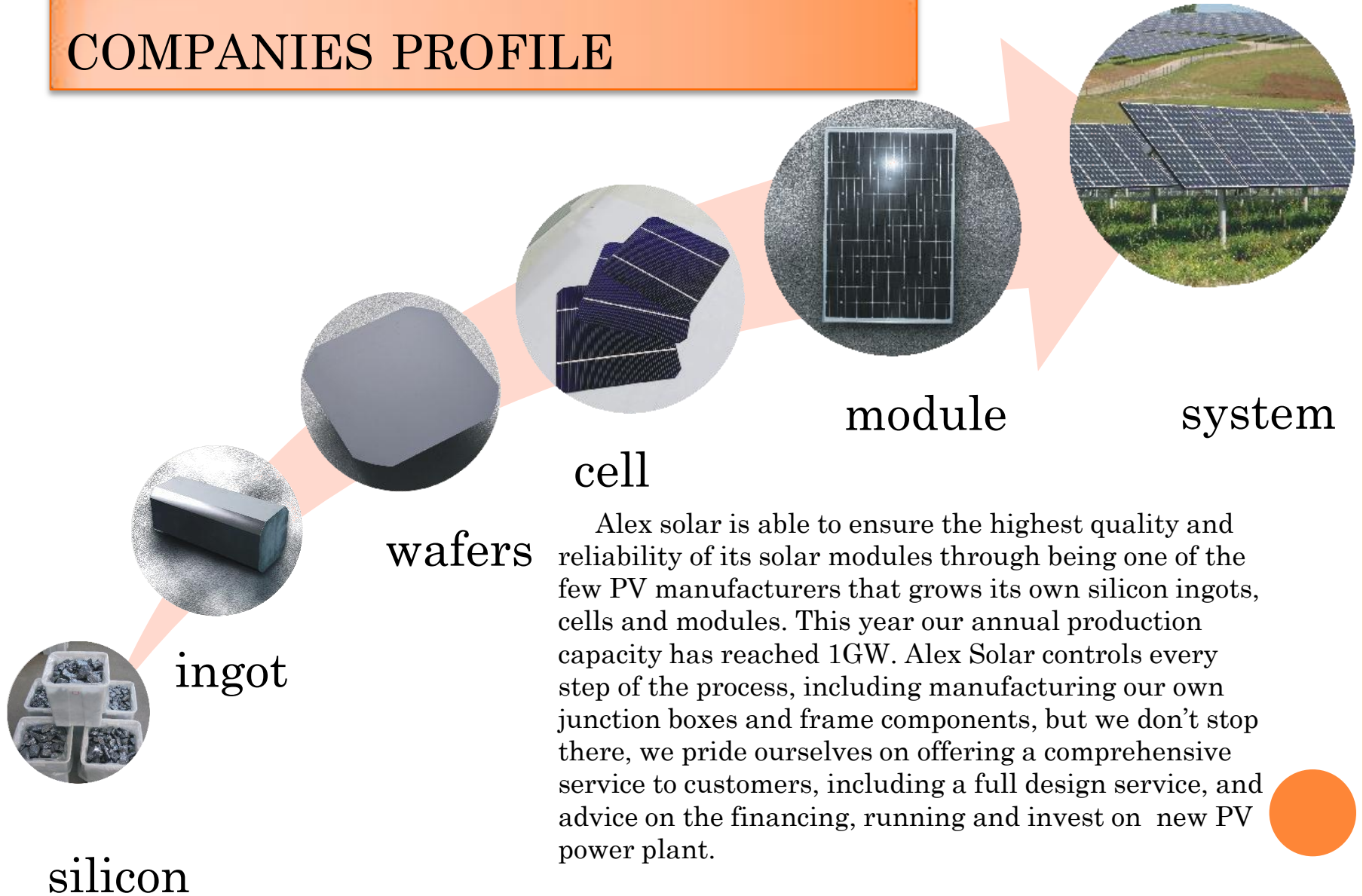
renewable energy solution
Alex solar

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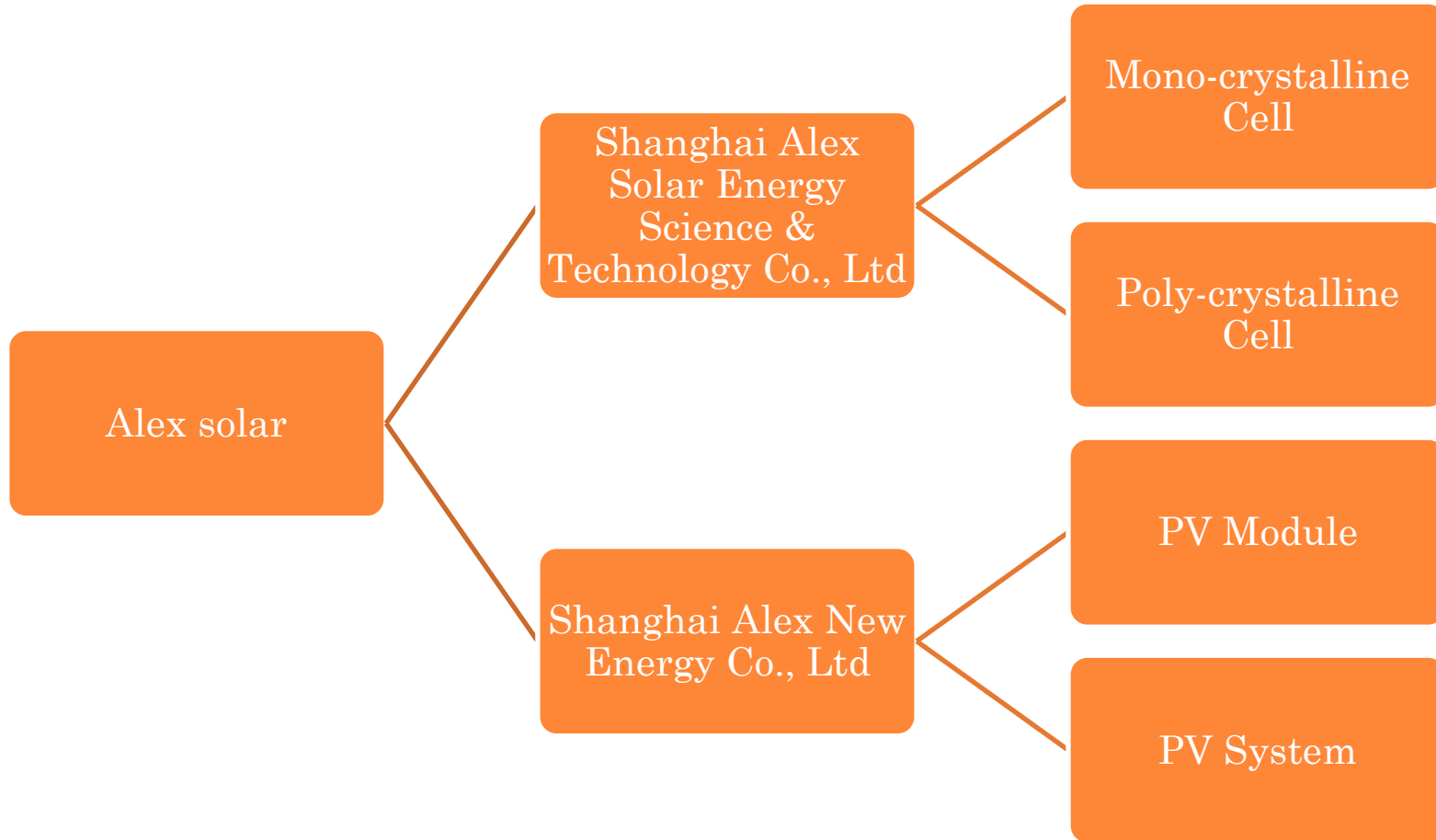
COMPANIES PROFILE



Alex solar is able to ensure the highest quality and reliability of its solar modules through being one of the few PV manufacturers that grows its own silicon ingots, cells and modules. This year our annual production capacity has reached 1GW. Alex Solar controls every step of the process, including manufacturing our own junction boxes and frame components, but we don't stop there, we pride ourselves on offering a comprehensive service to customers, including a full design service, and advice on the financing, running and invest on new PV power plant.

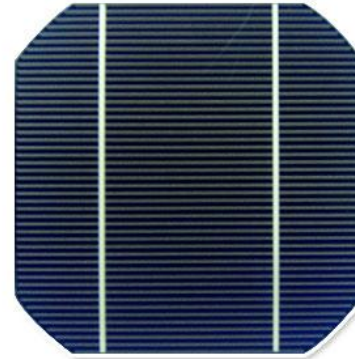


ORGANIZATION STRUCTURE



SHANGHAI ALEX NEW ENERGY CO., LTD

- Main products: solar cells
- Annual production capacity:1GW
- Employee: 900
- Occupied area: 54000 m²
- Main markets: Asia
- Type of Company: sino-foreign joint venture
- ISO9001



SOLAR CELL MANUFACTURING SHOP



Texturing



Diffusion



Etching



PSG
Removal



Sorting



Firing



Screen
Printing

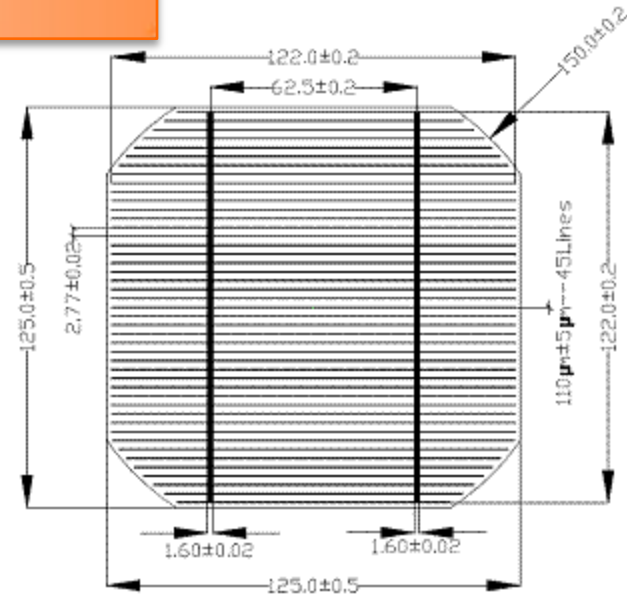


Coating



CELL FEATURES

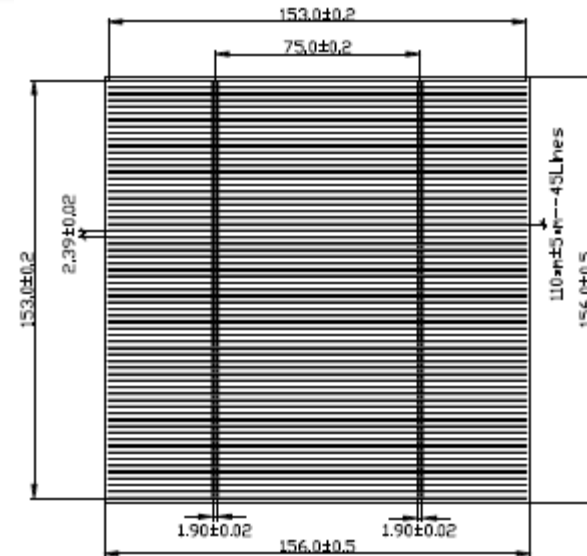
- Good quality, with high photoelectric conversion efficiency and reliability.
- Mature fabrication technology ensures product quality and efficiency.
- Adopt advanced PECVD film-forming technology to coat dark blue silicon nitride dereflection film on the battery surface. The color is smoothly and nicely painted.
- Fabricate BSF (back surface field) and electrode with high-quality metal pastes to ensure its conductivity, adhesive force and weldability.



Efficiency	Eff(%)	15.5-16.0	16.0-16.5	16.5-17.0	17.0-17.5	17.5-18.0
Power	Pm(W)	2.340	2.415	2.490	2.562	2.638
Short Circuit Current	Isc(A)	5.031	5.118	5.229	5.320	5.399
Max. Power Current	Im(A)	4.643	4.782	4.872	4.946	5.015
Open Circuit Voltage	Voc(V)	0.616	0.618	0.620	0.623	0.624
Max. Power Voltage	Vm(V)	0.504	0.505	0.511	0.518	0.526
Fill Factor	FF(%)	75.5	76.4	76.8	77.3	78.3

CELL FEATURES

- Low material cost and fabrication technology make the silicon chip competitive in price and quality.
- Compared with monocrystalline silicon cells, the polysilicon cells is more tolerant to impurities.
- Square battery plate saves space and improves space utilization rate of the component.
- Mature fabrication technology ensures product quality and efficiency.
- Adopt advanced PECVD film-forming technology to coat dark blue silicon nitride dereflection film on the cell surface. The color is smoothly and nicely painted.
- Fabricate BSF (back surface field) and electrode with high-quality metal pastes to ensure its conductivity, adhesive force and weldability.

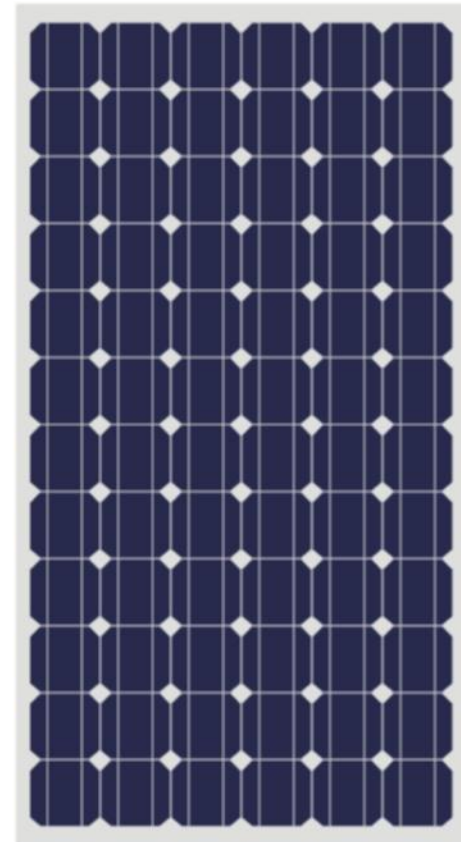


Efficiency	Eff(%)	14.50-15.00	15.00-15.50	15.50-16.00	16.00-16.50	16.50-17.00
Power	Pm(W)	3.589	3.711	3.833	3.955	4.076
Short Circuit Current	Isc(A)	7.743	7.955	8.136	8.313	8.569
Max. Power Current	Im(A)	7.107	7.276	7.443	7.606	7.763
Open Circuit Voltage	Voc(V)	0.618	0.622	0.624	0.626	0.630
Max. Power Voltage	Vm(V)	0.505	0.510	0.515	0.520	0.525
Fill Factor	FF(%)	75	75	75.5	76	75.5



SHANGHAI ALEX SOLAR ENERGY SCIENCE & TECHNOLOGY CO., LTD

- Main products: PV module
PV system
- Annual production capacity: 1GW
- Employee 400
- Occupied area: 30000 m²
- Main markets: Europe America
- Type of company sino-foreign
joint venture
- ISO9000
TUV UL RINA
CEC CE MCS



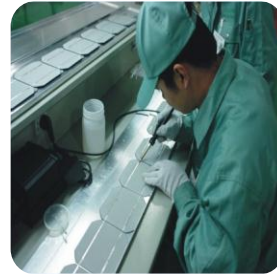
PV MODULE MANUFACTURING SHOP



Selecting



Soldering



Connection



Lamination



Packaging



Framing



Testing

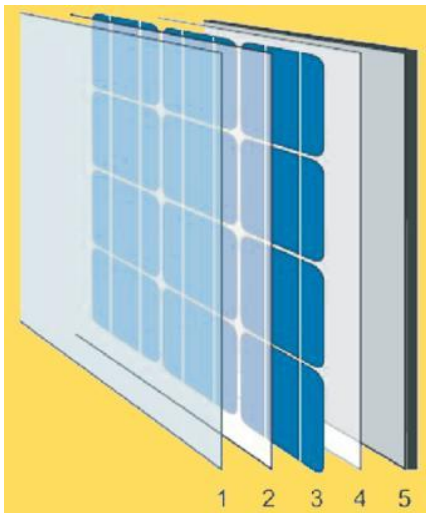


Lamination



MODULE FEATURE

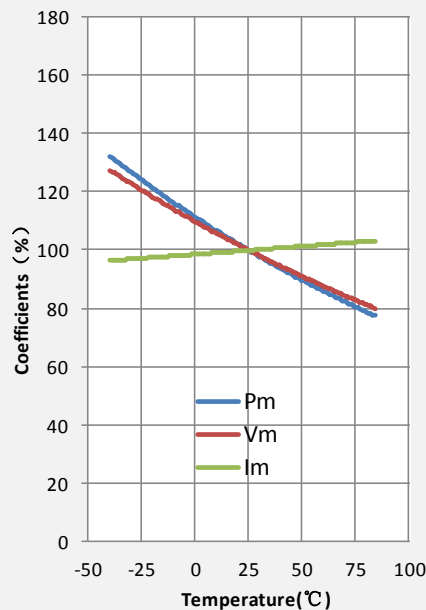
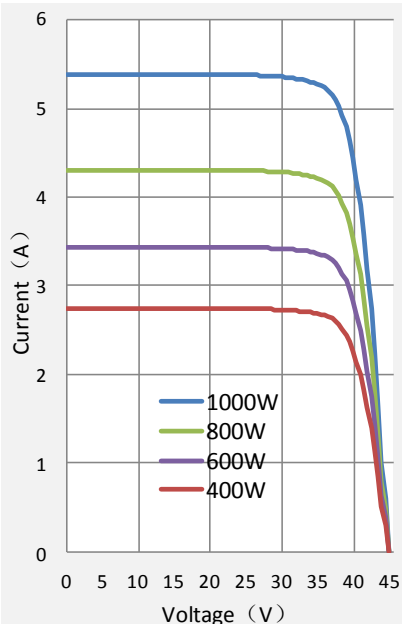
- High cell efficiency to ensure stability and reliability
- High performing modules have an industry low tolerance of 3%
- High reliable schottky bypass diode minimizes power drop by shade.
- Bad weather withstand Junction BOX,
- Crosslink cable and low connection losses connectors Can withstand high wind-pressure, snow load and extreme temperature
Module can bear snow loads up to 5400Pa and wind loads up to 2400pa.
- Bonded warehouse and technical support team locally



- 1、 Tempered Glass
- 2、 EVA
- 3、 Solar Cell
- 4、 EVA
- 5、 Triple-layer back sheet



MODULE FEATURE



Temperature Coefficients of Pmax -0.431%/°C

Temperature Coefficients of Voc -0.375%/°C

Temperature Coefficients of Isc +0.055%/°C

NOTC- Nominal Operating Cell Temperature 47°C (±2)

Allowable Hail Load

227g steel ball fall down from 1m height

Glass type

High Transmits. Low Iron. Tempered Glass Thickness 3.2mm

Frame

Aluminium-alloy

Dielectric Insulation Voltage

3000VDC max

Operating Temperature

-40 ~ +85 °C

Storage Temperature

-40 ~ +85 °C



QUALITY AND WARRANTY

- 10 years limited warranty on material and workmanship
- 10 years warranty on power output not lower than 90%
- 25 years warranty on power output not lower than 80%
- ISO 9001:2008 (Quality Management System) certified factory
- CE, IEC61215, IEC61730, RINA, MSC, CEC, UL certified products.
- Chubb insurance on each panel



PV SYSTEM

- Alex products are widely applied in different fields such as big on-grid ground solar plant, on-grid roof solar systems, home solar system in remote area, solar power system in communication, solar street lamps, and solar traffic signal lamp etc.



On-grid roof solar system



Home solar system



PV SYSTEM



Big on-grid ground solar plant



ALEX SHARE SUNSHINE WITH YOU ,
CREAT VALUE TOGETHER WITH YOU !

