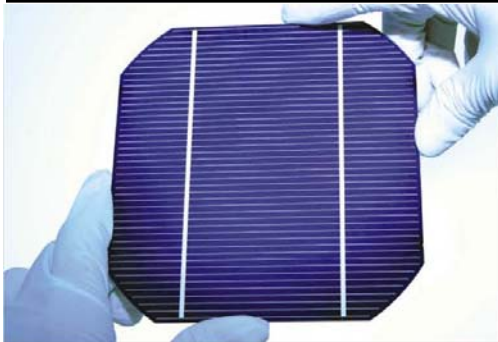
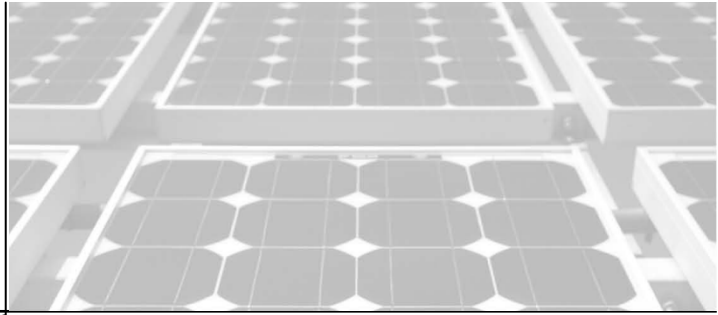




USL PHOTOVOLTAICS PVT LTD

WWW.USLPV.COM



THE FUTURE OF ENERGY

UPL designs, manufactures and markets the world's most advanced photovoltaic (PV) solar energy products. Our unique technology is breakthrough cell design developed by the UPL technical and engineering team in conjunction with the world's most prestigious PV Companies.

HIGH EFFICIENCY AT A SUPERIOR COST PER WATT

Our customized manufacturing process results in industry-leading cell efficiency at a superior cost per watt. This helps us keep our costs down and allows us to pass this savings onto our customers in order to offer some of the most competitive pricing in the PV market.

OUR TEAM IS OUR GREATEST ASSET

The UPL team of top PV engineers, manufacturers, electronics technicians and scientists are constantly developing breakthrough technologies to improve cell efficiency. Our Management team has over 25 years of combined experience in developing and producing high quality cells for some of the leading solar companies in the world. We are proud of our exclusive partnerships with some of the world's top PV companies.

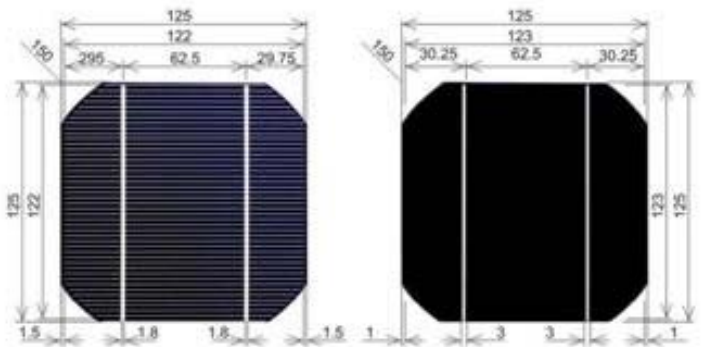
PV EXPERTISE IN OUR BACKYARD

UPL is based in India, which is one of the world's leading regions for silicon based technology, boasting a talented and experienced workforce and track record of PV excellence. We take full advantage of this proximity and it shows in our expert team, state of art PV manufacturing plant, and our world-class mono -crystalline cells

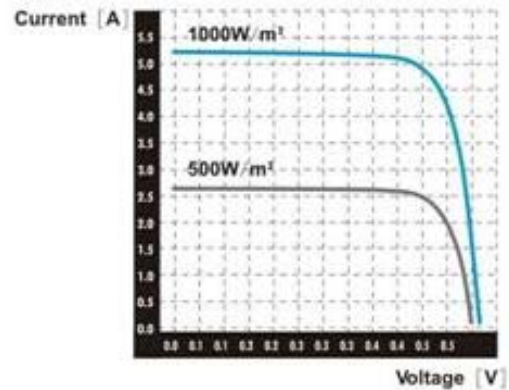


125 x 125 Mono-crystalline Solar cell

Item	Specification
Square length	125 ± 0.5 mm
Diameter	150 ± 0.5 mm (round chamfers)
Thickness	200µm ± 30µm
Front surface	1.8 mm silver bus bar, blue anti-reflecting silicon nitride coating
Back surface	3 mm silver wide soldering pads, aluminum surface field
Base material	p-type mono-crystalline silicon wafer doped with boron
Junction	Phosphorous diffused N on P

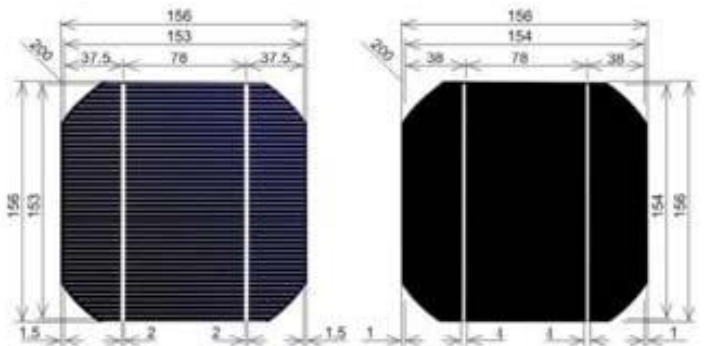


Efficiency (%)	P _{mpp} (W)	V _{mpp} (V)	I _{mpp} (A)	V _{oc} (V)	I _{sc} (A)
17.40 - 17.50	2.59	0.527	5.027	0.633	5.409
17.30 - 17.40	2.58	0.525	5.008	0.631	5.388
17.20 - 17.30	2.56	0.521	4.969	0.626	5.346
17.10 - 17.20	2.54	0.518	4.916	0.624	5.249
17.00 - 17.10	2.53	0.517	4.899	0.623	5.226
16.75 - 17.00	2.50	0.516	4.850	0.623	5.176
16.50 - 16.75	2.47	0.516	4.790	0.621	5.122
16.25 - 16.50	2.43	0.513	4.744	0.619	5.079
16.00 - 16.25	2.40	0.510	4.704	0.616	5.055



156 x 156 Mono-crystalline Solar cell

Item	Specification
Square length	156 ± 0.5 mm
Diameter	200 ± 0.5 mm (round chamfers)
Thickness	200µm ± 30µm
Front surface	2 mm silver bus bar, blue anti-reflecting silicon nitride coating
Back surface	4 mm silver wide soldering pads, aluminum surface field
Base material	p-type mono-crystalline silicon wafer doped with boron
Junction	Phosphorous diffused N on P



Efficiency (%)	P _{mpp} (W)	V _{mpp} (V)	I _{mpp} (A)	V _{oc} (V)	I _{sc} (A)
17.40 - 17.50	4.17	0.514	8.175	0.622	8.910
17.30 - 17.40	4.14	0.510	8.116	0.618	8.846
17.20 - 17.30	4.12	0.508	8.077	0.615	8.803
17.10 - 17.20	4.10	0.506	8.061	0.614	8.787
17.00 - 17.10	4.07	0.504	8.046	0.613	8.771
16.75 - 17.00	4.02	0.502	8.006	0.613	8.731
16.50 - 16.75	3.96	0.500	7.931	0.612	8.659
16.25 - 16.50	3.91	0.496	7.845	0.611	8.583
16.00 - 16.25	3.85	0.496	7.763	0.611	8.520

