

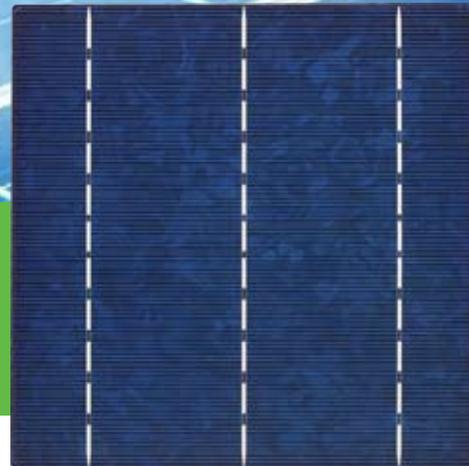
# DATASHEET

## ISL SONA SERIES

### I6MUZZ

POLY CRYSTALLINE CELLS

**High efficiency**  
PID-free  
photovoltaic cell



With our robust R & D arrangement for processes, raw material improvement and world-class testing facilities, we provide best cell quality & Industry leading efficiencies. Our cells have achieved a low breakage, high shunt, and low series resistance that result in low power loss in the module & better low light performance.

## KEY FEATURES



### Fully automated process

Manufactured in world class fully automated European equipment.



### Lower reverse current

Monitored strictly for reverse-current, a key metric to decide excellence of the cells. Our cells feature a very low reverse current of less than 1 A at -12 V.



### Production and quality control:

Fully compliant as per IEC 60904 and IEC 60891 Full reverse-current resistance testing. Regular calibration to Fraunhofer ISE standards



### Positive cell sorting

Cell sorting at 0.1% absolute efficiency ensuring positive power output at module level



### High annual yields

Our cells guarantee better performance in weak light than our competitors. High annual yields can thus be achieved, even at sub-optimal levels of sunlight.



### Quality assurance

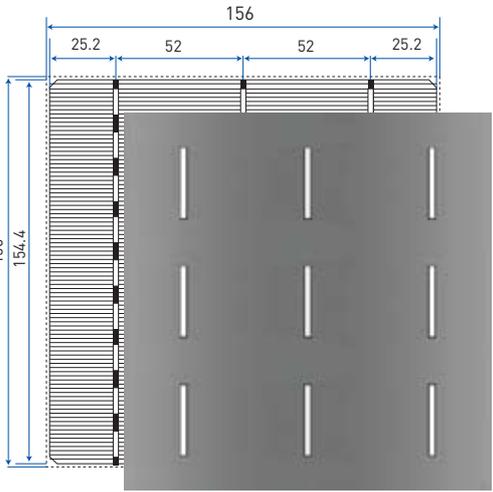
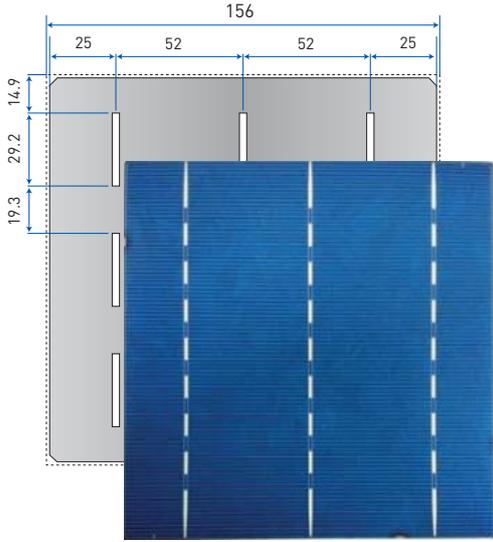
Cell performance is also measured in compliance with UL, CEC, CE and IEC standards 60904 and 60981 and with regard to solar spectral irradiance distribution in compliance with IEC 60904-3 ed. 2 2008.

#### INDIA

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# DATASHEET ISL SONA SERIES I6MUZZ



## ELECTRICAL CHARACTERISTICS

Part No.	Efficiency %	Pm (Wp)	Vmp (V)*	Imp (A)*	Voc (V)*	Isc (A)*	Current (A) at 0.5 V
I6MU1840ZZ	18.40	4.478	0.535	8.465	0.632	9.014	8.709
I6MU1830ZZ	18.30	4.453	0.534	8.434	0.631	8.982	8.676
I6MU1820ZZ	18.20	4.429	0.535	8.403	0.631	8.950	8.605
I6MU1810ZZ	18.10	4.405	0.532	8.371	0.630	8.918	8.594
I6MU1800ZZ	18.00	4.380	0.527	8.340	0.630	8.887	8.461
I6MU1790ZZ	17.90	4.356	0.526	8.310	0.629	8.856	8.428
I6MU1780ZZ	17.80	4.332	0.525	8.280	0.629	8.825	8.395
I6MU1770ZZ	17.70	4.307	0.524	8.250	0.628	8.794	8.362
I6MU1760ZZ	17.60	4.283	0.523	8.220	0.627	8.763	8.329
I6MU1750ZZ	17.50	4.259	0.522	8.185	0.626	8.732	8.296
I6MU1740ZZ	17.40	4.234	0.521	8.151	0.625	8.702	8.263
I6MU1730ZZ	17.30	4.210	0.520	8.118	0.624	8.670	8.230
I6MU1720ZZ	17.20	4.186	0.519	8.086	0.623	8.638	8.196
I6MU1710ZZ	17.10	4.161	0.518	8.055	0.622	8.606	8.161
I6MU1700ZZ	17.00	4.137	0.516	8.025	0.621	8.574	8.125
I6MU1690ZZ	16.90	4.113	0.515	7.994	0.620	8.542	8.087
I6MU1680ZZ	16.80	4.088	0.514	7.963	0.619	8.512	8.049

Note: All data are at Standard Testing Condition i.e. Irradiance 1000 W/m<sup>2</sup> with AM1.5 spectrum, Cell temperature 25°C. Test method according to IEC-60904-1 Efficiency range: 0 to +0.1% absolute, PMPP(Pm) tolerance: ±0.5% rel. with Indosolar sister cell traceable to ISE Fraunhofer

\*Specifications subject to change without prior notice as processes keep on improving. Indosolar reserves the rights of final interpretation and revision of this data sheet

## MECHANICAL DATA AND DESIGN

Product Format	:156 mm X 156 mm ± 0.5mm
Thickness(Si)	:240µm ± 20µm
Substrate Material	:P-Type multi crystalline silicon wafer
Front Contact(-)	:3 nos., 1.4 mm wide & 7 mm long Padded silver bus bar
Back Contact(+)	:3 nos., 2.5mm wide Padded silver bus bar

## TEMPERATURE COEFFICIENT

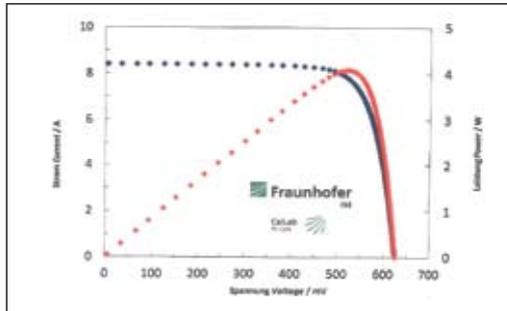
Tk Voltage	: -0.3434 ± 0.0059%/°K
Tk Current	: 0.0534 ± 0.0065%/°K
Tk Power	: -0.433 ± 0.015%/°K

## INTENSITY DEPENDENCE

Intensity w/m <sup>2</sup>	*Imp	*Vmp
1000	1.00	1.000
800	0.80	0.988
600	0.60	0.977
400	0.40	0.955
200	0.20	0.932

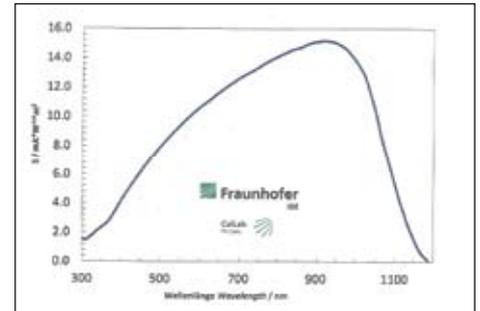
Ratio of Voc (Isc) at reduced intensity to Voc (Isc) at 1000w/m<sup>2</sup>

## IV CHARACTERISTICS



Reference data are calibrated against Fraunhofer ISE

## SPECTRAL RESPONSE



Spectral Response

## SOLDERING PEEL STRENGTH

:The soldering peel strength is ≥1.5N measured on front and back bus bar at 180° using Indosolar regular flux and ribbon at 350±50°C  
\* Peel strength can vary with different types of flux, ribbon and tabbing process parameters.

## PID TEST

:PID free at 60°C,85%RH, 96Hrs at 1000V according to IEC 62804

## PROCESS RECOMMENDATION

:Solder Joint-Copper ribbons coated with 10-15 µm 62%Sn/36%Pb/2%Ag Cell per by pass diode-Max. 20/24 cells for 60/72 cells module