



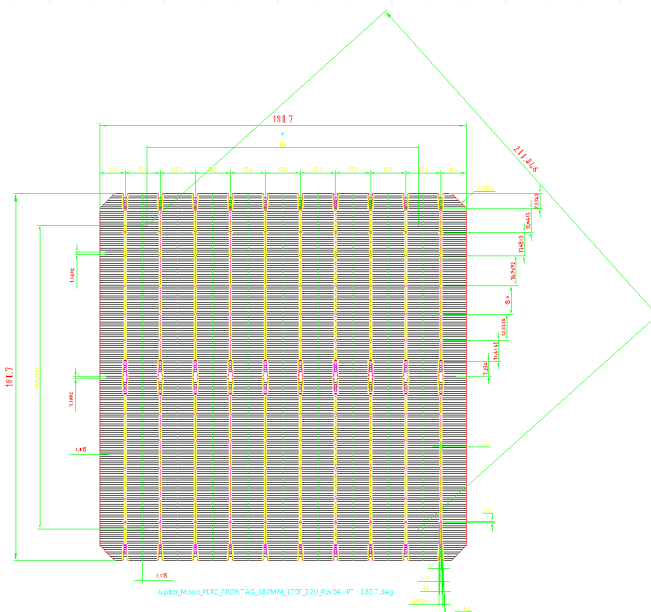
Mono Perc Bifacial Solar Cell Data Sheet

QRD-QCD-26/REV.00/DATE 13.11.2024

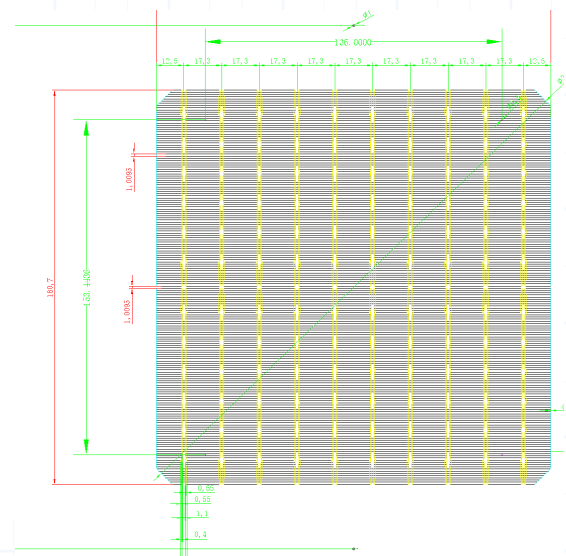
+ Mechanical Data

Model	182.2
Cell Type	Mono PERC Bifacial Solar Cell
Cell Format	182.2 x182.2 ± 0.25mm
Cell Thickness (with Metallization)	166 ± 16 µm
Cell Diagonal	247±0.50mm
Front side (-)	10*0.10±0.05mm Bus Bar (Silver) Blue (Dark blue) antireflection layer (SiONx), Front side 180.7 ± 0.30mm length,170±5 Silver Fingers, Half cut design, 14 no. soldering pads/ bus bar (04 no. head pad of 1.4x1.2mm±0.20mm and 10 no. middle pad of 1.0x0.8mm±0.20mm)
Back side (+)	12 no. soldering pads/bus, rear electrode (Silver) covered with Aluminum fingers, Half cut design
Center to center Bus Bar distance	17.3 ± 0.15 mm

+ Cell Layout



Front side layout



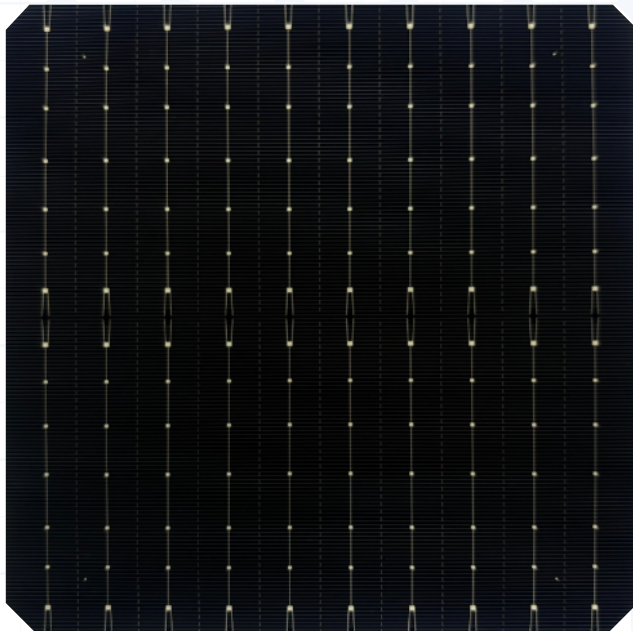
Rear side layout



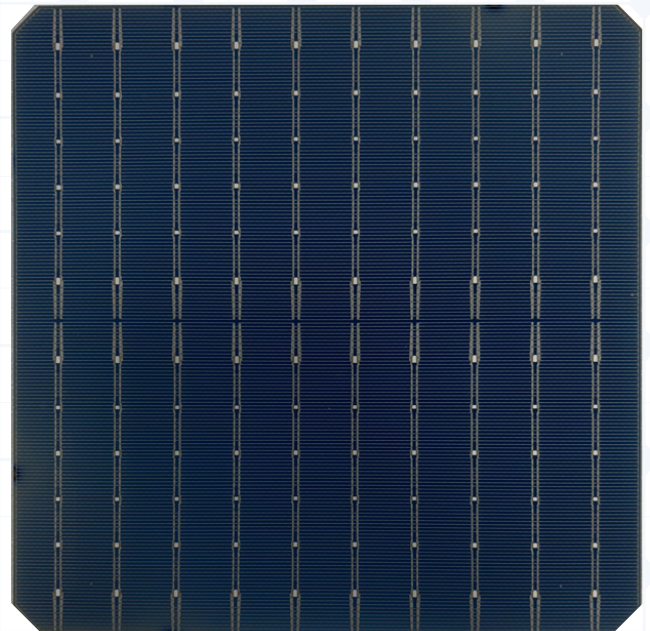
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Cell Appearance



Front side layout



Rear side layout



Electrical Performance

- Shunt resistance: Greater than 60 Ω with 98% population greater than 100 Ω
- Leakage current @ -12V: Maximum I_{rev} 0.8A with 98% population having I_{rev} less than 0.50A
- 100% PID Resistive, Compliance as per IEC 62804, MNRE
- 100% Inline EL Testing
- Fill Factor >80.5%
- Optimum RI
- Uniform Color Quality
- Compliance as per RoHS Directive (EU) 2015/863
- Outstanding Power output even in low light or high temperature condition
- Optimum Cell Layout



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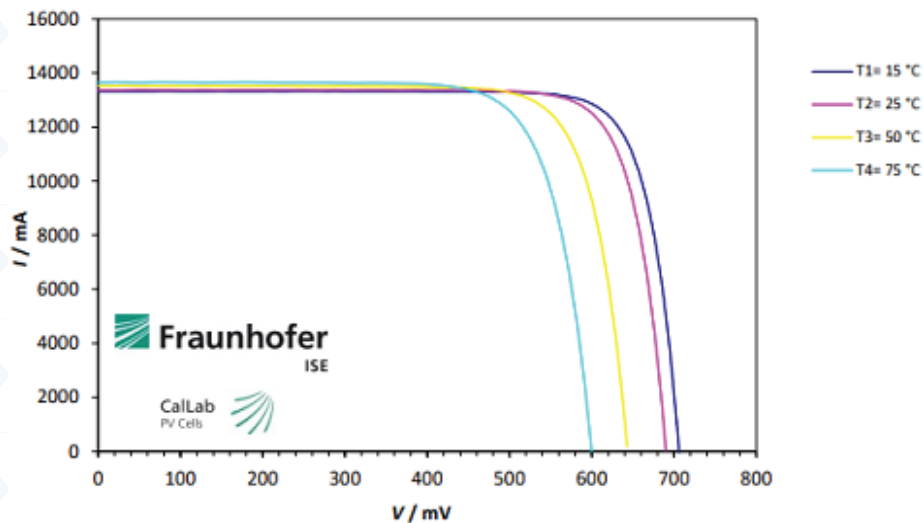
Electrical Data

Efficiency Range	Product Code	Pmax	Voc	Isc	FF	Umpp	Impp
>23.50	23.50L7.76W II	7.76	0.689	13.604	82.79	0.597	12.998
23.4-23.50	23.40L7.72W II	7.72	0.688	13.602	82.49	0.596	12.953
23.30-23.40	23.30L7.69W II	7.69	0.687	13.600	82.31	0.595	12.933
23.20-23.30	23.20L7.66W II	7.66	0.686	13.596	82.13	0.594	12.896
23.10-23.20	23.10L7.63W II	7.63	0.685	13.590	81.94	0.592	12.889
23.00-23.10	23.00L7.59W II	7.59	0.684	13.581	81.71	0.591	12.849
22.90-23.00	22.90L7.56W II	7.56	0.683	13.574	81.54	0.589	12.837
22.80-22.90	22.80L7.53W II	7.53	0.682	13.565	81.45	0.587	12.828
22.70-22.80	22.70L7.49W II	7.49	0.680	13.552	81.29	0.585	12.803
22.60-22.70	22.60L7.46W II	7.46	0.678	13.536	81.26	0.583	12.789
22.50-22.60	22.50L7.43W II	7.43	0.677	13.520	81.19	0.581	12.779
22.40-22.50	22.40L7.39W II	7.39	0.676	13.504	80.98	0.580	12.748
22.30-22.40	22.30L7.36W II	7.36	0.675	13.492	80.84	0.578	12.738
22.20-22.30	22.20L7.33W II	7.33	0.674	13.478	80.75	0.576	12.728
22.10-22.20	22.10L7.30W II	7.30	0.672	13.459	80.69	0.574	12.718
22.00-22.10	22.00L7.26W II	7.26	0.670	13.453	80.51	0.572	12.701

All data measured standard testing conditions: 1000W/m², 25°C, AM1.5G IEC60904-3(2020) and Reference cell calibrated by the Fraunhofer ISE in Freiburg.



Temperature Coefficient



Tk Voltage : -0.259%/K

Tk Current : +0.041%/K

Tk Power : -0.320%/K

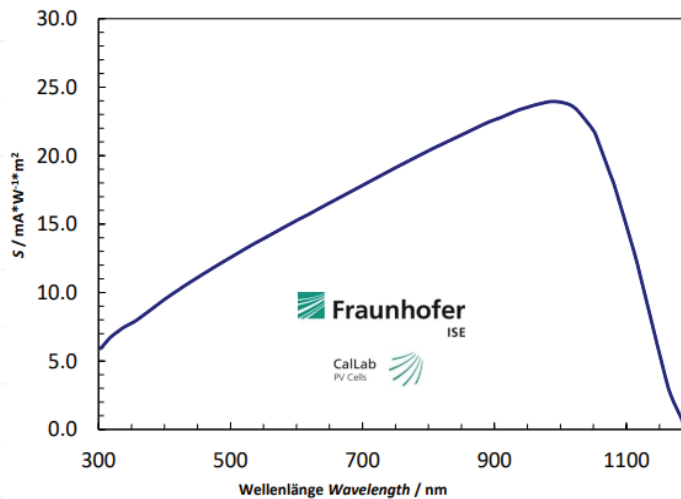


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Intensity Dependence

Intensity W/m ²	VOC	ISC
1000	1.000	1.000
800	0.991	0.801
400	0.962	0.402
200	0.922	0.199

Spectral Response



The amplitude of Voc/Isc decreasing with irradiation intensity based on STC (1000w/m²)

Reliability

Peak force on soldering pad $\geq 1.0\text{N}$ (Both FBB & RBB).

Processing Recommendations

Solder Joint: 0.30mm (round) including Sn60Pb40 coating thickness 15 to 20 μm on both sides

Storage Recommendations

Solar cells are fragile and sensitive to storage conditions. So, cells should be stored indoor in the condition of good ventilation, dry, relative humidity below 60% and temperature below 40°C. Solar cells are extremely susceptible to the humidity. It is recommended to make panels using the cells within the six months of the storage period for paramount performance. Once cells are opened from its original primary packing then cells should be used within 4hrs.