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DATASHEET SOLAR CELLS STANDARD POLYCRISTALLINE 5BB 157.00 mm

Normative references

Document number	Title
IEC 60904-1 Ed.2.0	Photovoltaic devices – Part 1: measurements of photovoltaic current-voltage characteristics
IEC 60904-3 Ed.2.0	Photovoltaic devices – Part 3: Measurement principles for terrestrial photovoltaic (PV) solar devices with reference spectral irradiance data
IEC 60904-7 Ed.3.0	Photovoltaic devices – Part 7: Computation of spectral mismatch error introduced in the testing of a photovoltaic device
IEC 61215 Ed.2.0	Crystalline silicon terrestrial photovoltaic (PV) modules – Design qualification and type approval

Cell structure

Tab 1 Cell Structure

Substrate material	P-type multi-crystalline silicon wafer
Cell thickness	200 μ m \pm 20 μ m, 180 μ m \pm 20 μ m
Dimension	157 \pm 0.25mm
Diagonal	220.6mm \pm 1mm
Front(-)	Acid textured surface, blue silicon nitride AR coating
	Silver busbars for the front electrodes
Back(+)	Aluminum back-surface field
	silver soldering pads for the backside electrodes

Front silver pastes: Samsung Series 87xx, Hereus Series 96xx.

Aluninum pastes: Rutech Series 8252, Hoyi Series 13xx & 16xx, T-SUN Series K6W6

Back silver pastes: Sun technology Series U-8820.

Electrical Data

Grade	Unit	1890	1880	1870	1850	1840
Voc	V	0.640	0.638	0.636	0.631	0.629
Isc	A	9.054	9.021	8.995	8.918	8.894
Vmp	V	0.547	0.545	0.542	0.538	0.534
Imp	A	8.582	8.549	8.523	8.452	8.411
Pmax	W	4.64	4.62	4.59	4.55	4.52
Efficiency	%	18.90	18.80	18.70	18.50	18.40

Electrical Data of P-type multi-Crystalline silicon solar cells

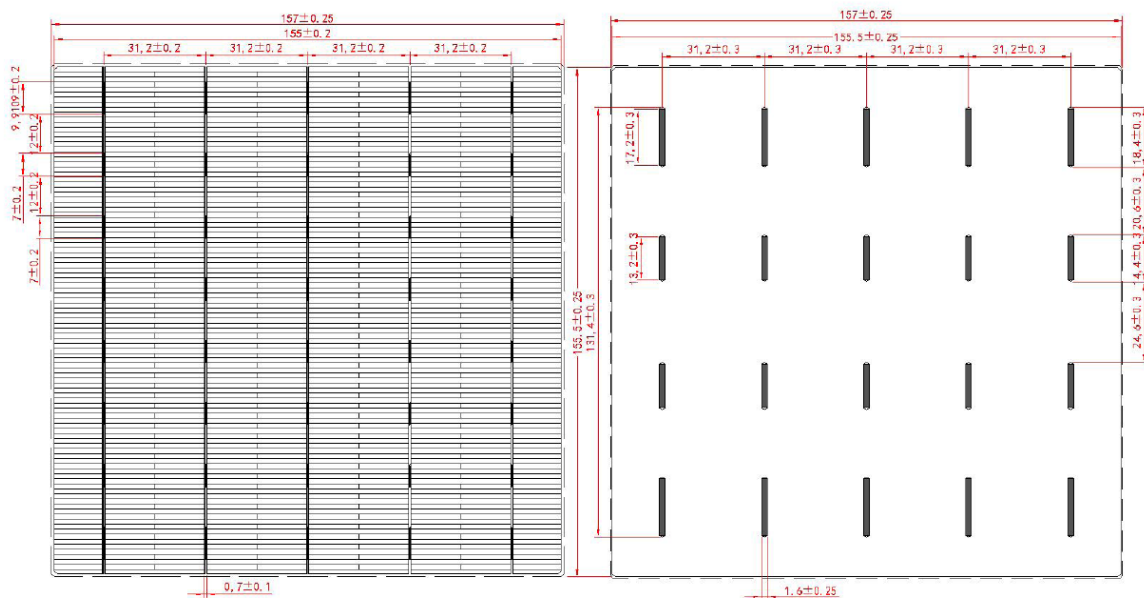
Irev2: <1A @-12V Rsh>20Ω

The electrical data apply to standard test conditions(STC):

Irradiance of 1000W/m², with spectrum AM 1.5 and a cell temperature of 25°C.

The above data are average figures presently measured. Reference data are calibrated by Fraunhofer ISE. Just for reference.

3.2.2 Printing patterns and parameters



Patterns and parameters of multi-Crystalline silicon solar cell

Temperature Coefficient (Typical data for reference)



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Pmax.Temp.Coeff	$-(0.39 \pm 0.02) \%/k$
Voc.Temp.Coeff	$-(0.32 \pm 0.03) \%/k$
Isc.Temp.Coeff	$+(0.05 \pm 0.015) \%/k$

3.3 Light induced degradation test

Using Xenon lamp (Irradiance of $1000W/m^2$, with spectrum AM 1.5) to irradiate test cells, after a total irradiation of $5 kWh/m^2$, the degradation of maximum output power of cells is $\leq 2\%$.

3.4 CTM

Lower cell to module(CTM) power loss: $< 1\%$.

3.5 Anti-PID

Potential Induced Degradation(-1000V,96Hrs): $< 5\%$