

MS-P156

156×156mm Multicrystalline Solar Cells

PID free cells



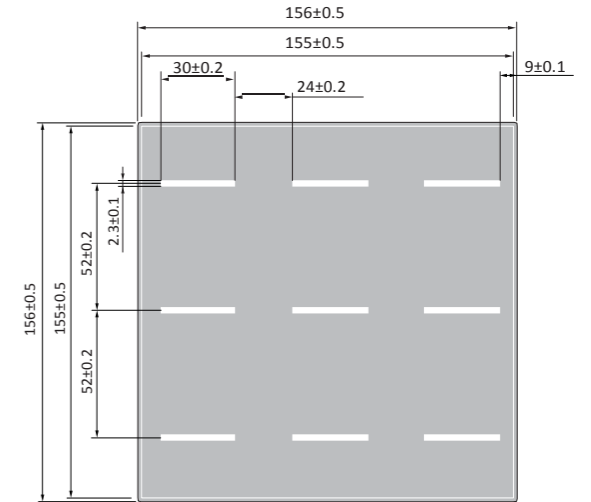
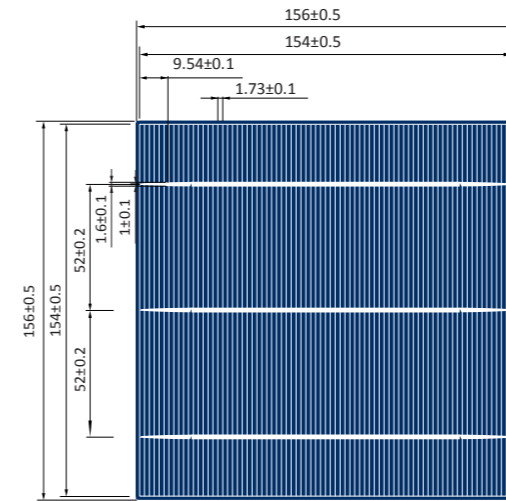
Appearance	
Size	156mm×156mm±0.5mm
Thickness	210μm±20μm
Front (-)	Silicon nitride anti-reflection film
	Width of electrode 1.6mm
Back (+)	Al-back surface field (Al-BSF)
	Width 2.3mm

Temperature coefficients	
Open-circuit voltage temperature coefficient	-0.36%/K
Short-circuit current temperature coefficient	0.07%/K
Max. power temperature coefficient	-0.38%/K

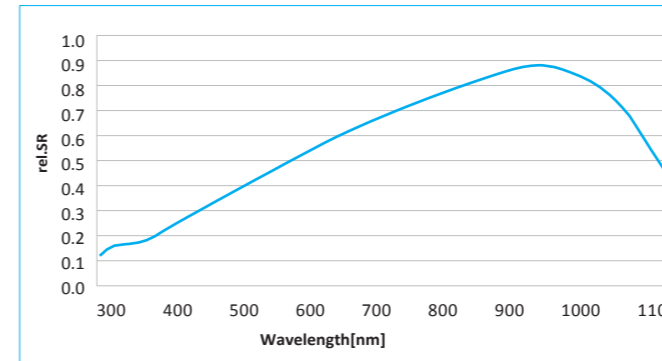
Electric performance parameters

EFF	RANGE	Pmpp(W)	I _{mp} (A)	U _{mp} (V)	I _{sc} (A)	U _{oc} (V)	FF(%)
18.40%	18.40%-18.60%	4.48	8.203	0.546	8.689	0.636	81.07
18.20%	18.20%-18.40%	4.43	8.142	0.544	8.627	0.635	80.87
18.00%	18.00%-18.20%	4.38	8.080	0.542	8.566	0.634	80.65
17.80%	17.80%-18.00%	4.33	8.032	0.539	8.527	0.633	80.22
17.60%	17.60%-17.80%	4.28	7.984	0.536	8.496	0.631	79.84
17.40%	17.40%-17.60%	4.23	7.935	0.533	8.472	0.629	79.38
17.20%	17.20%-17.40%	4.19	7.905	0.530	8.433	0.626	79.37
17.00%	17.00%-17.20%	4.14	7.855	0.527	8.391	0.624	79.07
16.80%	16.80%-17.00%	4.09	7.804	0.524	8.350	0.621	78.88
16.60%	16.60%-16.80%	4.04	7.753	0.521	8.304	0.617	78.85
16.40%	16.40%-16.60%	3.99	7.702	0.518	8.269	0.615	78.46

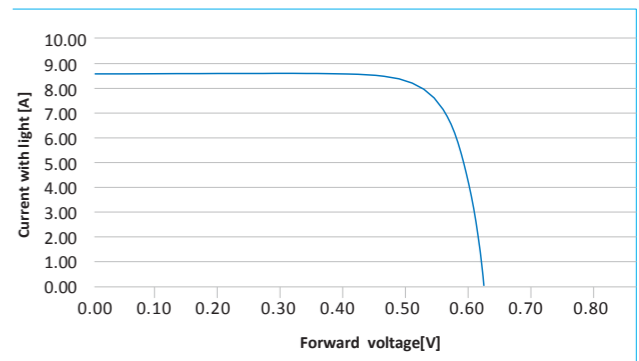
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Spectral response



I-V curve



Low light performance

Illumination intensity [W/m ²]	V _{pm}	I _{pm}
1000	1.000	1.000
800	0.990	0.800
600	0.978	0.600
200	0.930	0.200
100	0.900	0.100
60	0.878	0.060
30	0.848	0.030
15	0.818	0.015