

Semi-Transparent PV modules

Product features

Sun Well Solar presents you with our latest semi-transparent PV products. By the usage of semi-transparent amorphous silicon and transparent conductive oxide (TCO) films as two electrodes of the cells in the solar module, our PV module is characterized of semi-transparency. Unlike other see-through thin-film PV products, which are made with opaque electrodes (e.g. silver) and opaque active layer (e.g. microcrystalline silicon, CdTe, or CIGS films) which are partially removed by laser drilling. You can find our products' advantages as following:

- ◆ The mandarin color and semi-transparent characteristic provide wonderful visual comfort.
- ◆ PV module absorbs 99.9% UV light and is a perfect block to harmful UV light.
- ◆ Without active area loss by laser drilling, Sun Well Solar PV module features high power conversion efficiency than other see-through thin-film PV modules.
- ◆ The high transmittance of red light is favorable to plant growth and crop cultivation.
- ◆ The high light transmission in the infra-red region creates a greenhouse effect favorable to the cultivation of particular plants.
- ◆ Among all thin-film PV technologies, silicon thin-film PV is the only one technology containing without heavy metals.
- ◆ No opaque back electrode, thus extra power is generated for receiving light from both front and rear sides.

Specifications

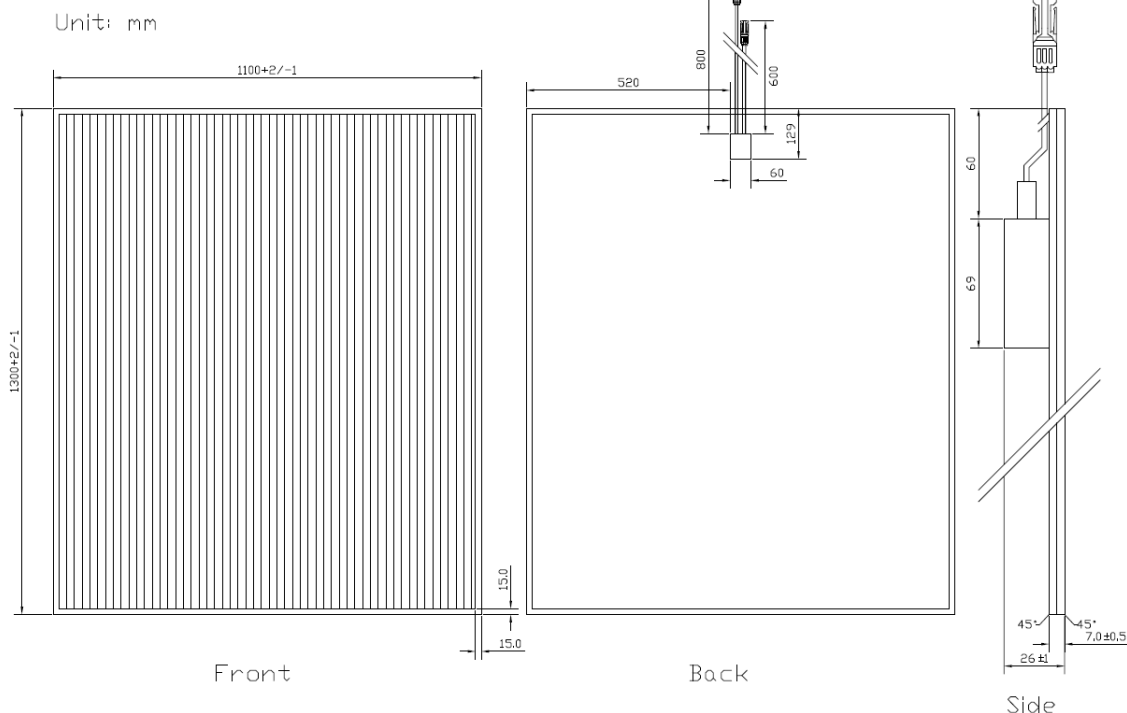
Model	Physical Spc.			Electrical Spc.						Light Spc.	
	Dimensions (mm)	Weight (kg)	Glass ² (front + rear)	Vmpp [V]	I _{mp} [A]	Voc [V]	I _{sc} [A]	Rated Power (Wp)	Power density (W/m ²)	Transparency (%) average transmittance at 400-800 nm	UV cut (%)
¹ WD-C-GF-0901	without junction box: 1300x1100x7 with junction box: 1300x1100x26	24	F+F	103	0.90	137	1.15	90	63	20.0±3.5	99.99
¹ WD-C-GF-0902				103	0.85	137	1.11	85	59		
¹ WD-C-GF-0903				99	0.83	136	1.09	80	56		
¹ WD-C-GF-0904				95	0.81	135	1.08	75	52		

Note:

1. Rated power sorting tolerance is +4.99 / -0 Wp.

2. F+F: float glass + float glass.

WD-C-GF-090x (+4600Pa & -4600Pa) ^{a, b, c, d}



Note:

^a: Positive & Negative pressures apply up to the indicated pressures for Wind Pressure Resistance Test (ASTM E330/CNS 13972) for BIPV applications.

^b: PV Certifications for TUV(EU), CGC(China), and MCS(UK) are listed.

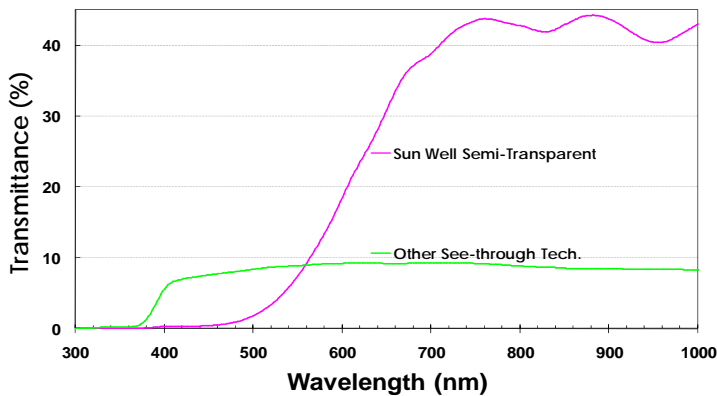
^c: Salt Mist Test (IEC 61701/CNS 15159) pass.

^d: Fire Tests (UL 790:2004, IEC 61646:2008, IEC 61730-2/CNS 15118-2) pass.

Solar heat characteristics

Product	Visible		UV Trans. (%)	Solar Heat							U-Value		Shading Coefficient
	Trans. (%)	Reflc. Outdoor (%)		Reflc. (%)	Absorb. %			Direct Trans. (%)	Total Heat Trans. (%)	Relative Heat Gain (W/m ²)	Winter Nighttime (W/m ² K)	Summer Daytime (W/m ² K)	
					Absorb.	Rerad. to Outdoors	Rerad. to Indoors						
Air	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	100	N/A	N/A	N/A	N/A
Blank (single piece glass)	90	8	64	8	8	5	3	84	87	671	5.9	5.32	1
Reference (laminated glass-glass)	89	11	< 1	8	15	11	4	77	81	629	5.66	5.11	0.93
WD-C-GF-090	9	7	< 1	10	67	46	21	23	44	359	5.65	5.11	0.51

Spectra & Appearance



References for Building Integrated PV Applications

Greenhouse & Plant Factory



Facades & Sky Garden & Motor-drove Windows



Bus Stop & Shelter & Car/Bicycle Ports

