

APPLIES TO: SPR-A450-COM, SPR-A440-COM, SPR-A430-COM, SPR-A425, SPR-A420, SPR-A415, SPR-A410, SPR-A400, SPR-A390

TESTS AND CERTIFICATIONS	
Standard tests	UL 1703
Quality tests	ISO 9001:2015, ISO 14001:2015
EHS Compliance	RoHS, OHSAS 18001:2007, lead free, Recycle Scheme, REACH SVHC-163, C2C (pending)
Max Test Load	72 cell Gen 4.2 frame Wind: 208 psf, 10000 Pa, 1019 kg/m ² front & back Snow: 208 psf, 10000 Pa, 1019 kg/m ² front 66 cell Gen 5.1 frame / Gen 5.2 Wind: 187 psf, 9000 Pa, 917 kg/m ² front & back Snow: 187 psf, 9000 Pa, 917 kg/m ² front
Design Load	72 cell Gen 4.2 frame Wind: 75 psf, 3600 Pa, 367 kg/m ² front & back Snow: 125 psf, 6000 Pa, 611 kg/m ² front 66 cell Gen 5.1 frame / Gen 5.2 Wind: 62 psf, 3000 Pa, 305 kg/m ² front & back Snow: 125 psf, 6000 Pa, 611 kg/m ² front
Operating Temps	- 40°F to +185°F (- 40°C to +85°C)

WARRANTY, IMPACT RESISTANCE, FUSE RATING, J-BOX	
WARRANTIES	25-YEAR LINEAR POWER WARRANTY 25-YEAR LIMITED PRODUCT WARRANTY
Impact Resistance	(hail) 25mm (1 inch) diameter at 23 m/s (52 mph)
Max Series Fuse	20 Amp rating
Connectors	PV4S with 1320mm cable length, PV4S with 1200mm cable length (with MLSD)
Junction Box	IP-68

A-SERIES MAJOR GLOBAL MARKET LISTINGS		
Commercial & Residential Modules	66-Cell Modules	72-Cell Modules
Major Market Listings	UL	UL

PLATFORM ELECTRICAL DATA, STC

Module	Platform (Number of cells)	Nominal Power	Power Tolerance (%)	At Standard Test Conditions				
				Rated Voltage Vmp (V)	Rated Current Imp (A)	Open Circuit Voltage Voc (V)	Short Circuit Current, Isc (A)	Max System Voltage UL Vmax (V)
SPR-A450-COM	72	450	+5/-0	44.0	10.2	51.9	11.0	1500
SPR-A440-COM**	72	440	+5/-0	43.4	10.2	51.6	10.9	1500
SPR-A430-COM	72	430	+5/-0	42.7	10.1	51.2	10.9	1500
SPR-A425	66	425	+5/-0	40.7	10.4	48.2	10.9	1000
SPR-A420	66	420	+5/-0	40.5	10.4	48.2	10.9	1000
SPR-A415	66	415	+5/-0	40.3	10.3	48.2	10.9	1000
SPR-A410	66	410	+5/-0	40.0	10.2	48.2	10.9	1000
SPR-A400	66	400	+5/-0	39.5	10.1	48.1	10.9	1000
SPR-A390	66	390	+5/-0	39.0	10.0	48.0	10.8	1000

** Modules with MLSD version available

TEMPERATURE COEFFICIENTS & EFFICIENCY REFERENCES

Module	At STC	Basic Temperature Data				Efficiency Numbers		
	Nominal Power	Current (Isc) Temp. Coeff. (mA/°C)	Voltage (Voc) Temp. Coeff. (mV/°C)	Power Temp. Coeff. (%/°C)	NOCT @ 20°C (Value +/- 2 °C)	Module Efficiency (%)	Nominal Peak Power per Unit Area (W/m ²)	Nominal Peak Power per Unit Area (W/ft ²)
SPR-A450-COM	450	5.7	-136	-0.29	43	22.2	222	20.6
SPR-A440-COM**	440	5.7	-136	-0.29	43	21.7	217	20.1
SPR-A430-COM	430	5.7	-136	-0.29	43	21.2	212	19.7
SPR-A425	425	4.1	-114.7	-0.29	43	22.8	228	21.2
SPR-A420	420	4.1	-114.3	-0.29	43	22.5	225	20.9
SPR-A415	415	4.1	-113.8	-0.29	43	22.3	223	20.7
SPR-A410	410	4.1	-113.5	-0.29	43	22.0	220	20.4
SPR-A400	400	4.1	-112.8	-0.29	43	21.5	215	19.9
SPR-A390	390	4.1	-112.8	-0.29	43	20.9	209	19.4

PLATFORM PERFORMANCE AT NOCT

(800 W/m², 20°C ambient, 1 m/s wind speed)

Module	At STC	Nominal Electrical data at NOCT (NOCT: 800W/m ² , 20 °C amb. Temp., 1m/s wind speed)					
	Nominal Power	NOCT Pnom	NOCT Vmpp	NOCT Impp	NOCT Voc	NOCT Isc	NOCT % of rated
SPR-A450-COM	450	334	41.2	8.11	49.0	8.88	74.3%
SPR-A440-COM**	440	329	40.6	8.11	48.7	8.80	74.9%
SPR-A430-COM	430	321	40.0	8.03	48.3	8.80	74.6%
SPR-A425	425	315	38.1	8.27	45.7	8.78	74.0%
SPR-A420	420	313	37.9	8.27	45.7	8.78	74.5%
SPR-A415	415	309	37.7	8.19	45.8	8.78	74.4%
SPR-A410	410	303	37.4	8.11	45.8	8.78	74.0%
SPR-A400	400	297	37.0	8.03	45.7	8.78	74.2%
SPR-A390	390	290	36.5	7.95	45.6	8.70	74.3%

PLATFORM PERFORMANCE AT LOW IRRADIANCE

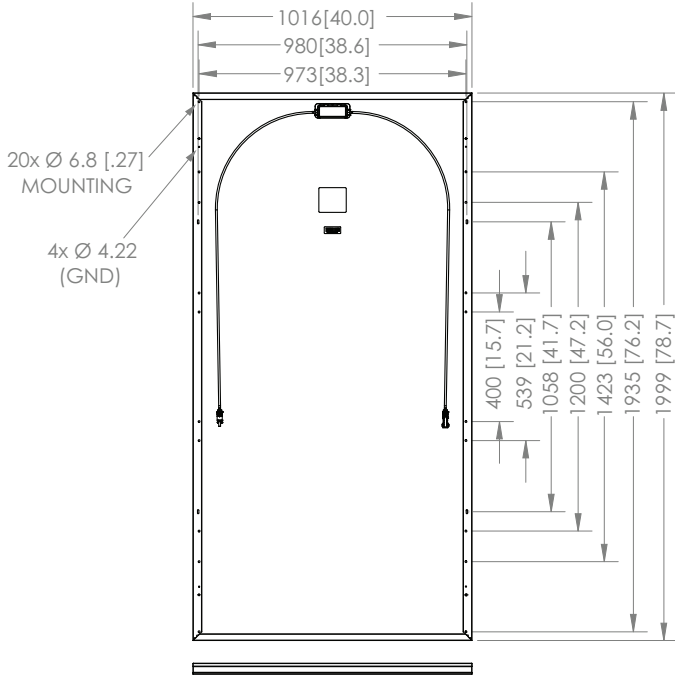
(200 W/m². 25°C cell temperature. air mass 1.5 SSID*)

Module	At STC	Irradiance vs. Power at Low Irradiance (200W/m ² and @25°C (SNL coefficients))					
	Nominal Power	Low irradiance Pmpp (W)	Low irradiance Vmpp (V)	Low irradiance Impp (A)	Low irradiance Voc (V)	Low irradiance Isc (A)	Pctg. of nominal power
SPR-A450-COM	450	84.4	41.4	2.04	48.9	2.20	18.8%
SPR-A440-COM**	440	83.2	40.8	2.04	48.6	2.18	18.9%
SPR-A430-COM	430	80.9	40.1	2.02	48.2	2.18	18.8%
SPR-A425	425	79.6	38.3	2.08	45.5	2.18	18.7%
SPR-A420	420	79.2	38.1	2.08	45.5	2.18	18.9%
SPR-A415	415	78.1	37.9	2.06	45.5	2.18	18.8%
SPR-A410	410	76.7	37.6	2.04	45.5	2.18	18.7%
SPR-A400	400	74.9	37.1	2.02	45.4	2.18	18.7%
SPR-A390	390	73.2	36.6	2.00	45.3	2.16	18.8%

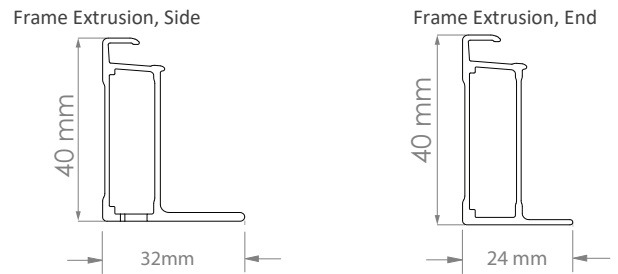
*SSID = Solar Spectral Irradiance Distribution

MODULE PLATFORM DIMENSIONS

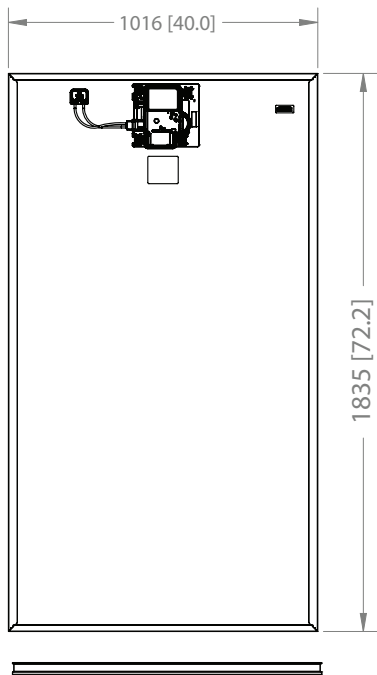
Gen 4.2 Frame - 72 CELL
(SPR-A450-COM, SPR-A440-COM, SPR-A430-COM)



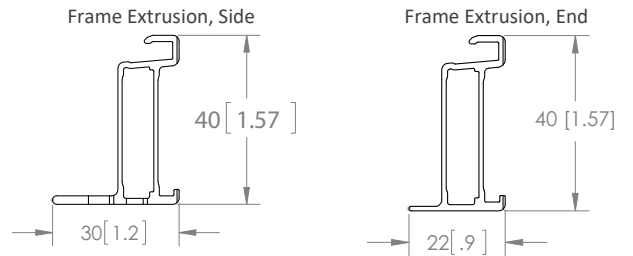
Gen 4.2 Frame Profile



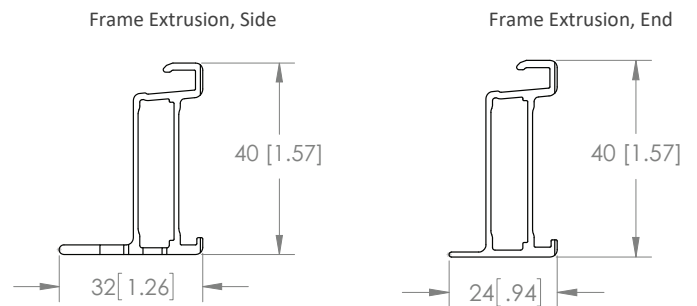
66 CELL
(SPR-A425, SPR-A420, SPR-A415, SPR-A410, SPR-A400, SPR-A390)



Gen 5.1 Frame Profile

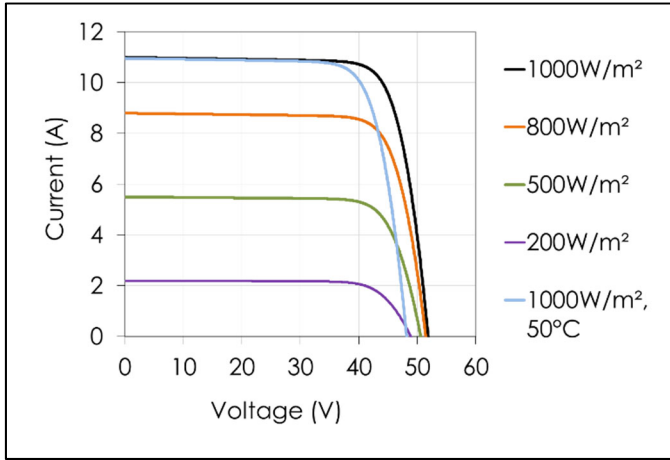


Gen 5.2 Frame Profile



IV CURVES OF PRIMARY PLATFORM MODELS

SPR-A450-COM



SPR-A425

