

APPLIES TO: SPR-E20-445-COM, SPR-E20-440-COM, SPR-E20-435-COM, SPR-E19-420-COM, SPR-E20-330-COM, SPR-E20-327-COM, SPR-E19-320-COM

TESTS AND CERTIFICATIONS		WARRANTY, IMPACT RESISTANCE, FUSE RATING, J-BOX	
Standard tests	UL 1703 (Type 2 UL Module Fire Rating), IEC61215, IEC61730, Class C IEC Fire Rating	WARRANTIES	25-YEAR LINEAR POWER WARRANTY 25-YEAR LIMITED PRODUCT WARRANTY
Quality tests	ISO 9001:2015, ISO 14001:2015		NPC MODULES CARRY A DIFFERENT PRODUCT WARRANTY
EHS Compliance	RoHS, OHSAS 18001:2007, Recycle Scheme, SVHC-163	Impact Resistance	(hail) 25mm (1 inch) diameter at 23 m/s (52 mph)
Ammonia test	IEC 62716	Max Series Fuse	15 Amp rating
Desert test	MIL-STD-810G	Connectors	MC4 Compatible with cable lengths, 1230mm for 128cell and 1000mm (96cell)
Salt-spray test	IEC 61701 (max. severity)	Junction Box	JBox, IP 65, no larger than (cm) 2.5 x 11.5 x 13.1. For specifics, contact regional sales team
PID test	Potential-Induced Degradation free:1000V		
Max Load	<b>96 cell (Generation 3 frame)</b> Wind: 50 psf, 2400 Pa, 244 kg/m <sup>2</sup> front & back Snow: 112 psf, 5400 Pa, 550 kg/m <sup>2</sup> front <b>128 cell(Generation 4 frame)</b> Wind: 50 psf, 2400 Pa, 244 kg/m <sup>2</sup> front & back Snow: 112 psf, 5400 Pa, 550 kg/m <sup>2</sup> front		
Operating Temps	- 40°F to +185°F (- 40°C to +85°C)		

E-SERIES MAJOR GLOBAL MARKET LISTINGS		
Commercial Modules	96-Cell Modules	128-Cell Modules
Major Market Listings*	UL, TUV, MCS, FSEC, CEC	UL, TUV, MCS, FSEC, CEC
* Platforms options available in listed markets, but every individual sku may not be available in each referenced market.		

### 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)	Max System Voltage IEC Vmax (V)
SPR-E20-445-COM	128	445	+5/-3	72.9	6.11	86.5	6.57	1000	1000
SPR-E20-440-COM	128	440	+5/-3	72.9	6.04	86.5	6.50	1000	1000
SPR-E20-435-COM	128	435	+5/-3	72.9	5.97	85.6	6.43	1000	1000
SPR-E19-420-COM	128	420	+5/-3	72.9	5.77	85.6	6.20	1000	1000
SPR-E20-330-COM	96	330	+5/-3	54.7	6.04	64.9	6.52	1000	1000
SPR-E20-327-COM	96	327	+5/-3	54.7	5.98	64.9	6.46	1000	1000
SPR-E19-320-COM	96	320	+5/-3	54.7	5.76	64.8	6.24	1000	1000

### PLATFORM ELECTRICAL DATA (continued) 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/m²)	Nominal Peak Power per Unit Area (W/ft²)
SPR-E20-445-COM	445	2.6	-235.5	-0.33%	45.0	20.6%	206	19.1
SPR-E20-440-COM	440	2.6	-235.5	-0.33%	45.0	20.4%	204	18.9
SPR-E20-435-COM	435	2.6	-235.5	-0.33%	45.0	20.1%	201	18.7
SPR-E19-420-COM	420	2.6	-235.5	-0.33%	45.0	19.4%	194	18.0
SPR-E20-330-COM	330	2.6	-176.6	-0.33%	45.0	20.2%	204	18.8
SPR-E20-327-COM	327	2.6	-176.6	-0.33%	45.0	20.1%	201	18.7
SPR-E19-320-COM	315	2.6	-176.6	-0.33%	45.0	19.6%	196	18.2

### 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/m², 20°C amb. Temp., 1m/s wind speed)					
	Nominal Power	NOCT Pnom	NOCT Vmpp	NOCT Impp	NOCT Voc	NOCT Isc	NOCT % of rated
SPR-E20-445-COM	445	331	67.2	4.92	81.0	5.30	74.3%
SPR-E20-440-COM	440	327	67.2	4.87	81.0	5.24	74.3%
SPR-E20-435-COM	435	323	67.2	4.81	80.1	5.19	74.3%
SPR-E19-420-COM	420	312	67.2	4.64	80.1	5.01	74.3%
SPR-E20-330-COM	330	247	50.4	4.91	60.8	5.26	75.0%
SPR-E20-327-COM	327	243	50.4	4.82	60.8	5.21	74.3%
SPR-E19-320-COM	315	238	50.4	4.72	60.7	5.03	74.4%

### PLATFORM PERFORMANCE AT LOW IRRADIANCE

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

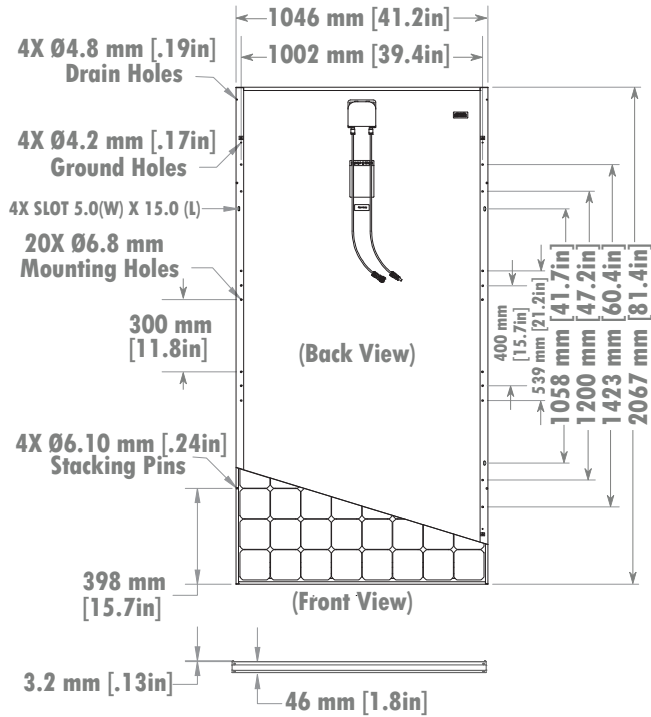
Module	At STC	Irradiance vs. Power at Low Irradiance (200W/m² and @25°C (SNL coefficients))			
	Nominal Power	Low irradiance Pmpp (W)	Low irradiance Vmpp (V)	Low irradiance Impp (A)	Pctg. of nominal power
SPR-E20-445-COM	445	85.5	69.5	1.23	19.2%
SPR-E20-440-COM	440	85.5	69.5	1.23	19.4%
SPR-E20-435-COM	435	83.6	69.5	1.20	19.2%
SPR-E19-420-COM	420	80.7	69.5	1.16	19.2%
SPR-E20-330-COM	330	63.4	52.1	1.22	19.2%
SPR-E20-327-COM	327	62.8	52.1	1.20	19.2%
SPR-E19-320-COM	315	61.5	52.1	1.18	19.2%

\*SSID = Solar Spectral Irradiance Distribution

### MODULE PLATFORM DIMENSION

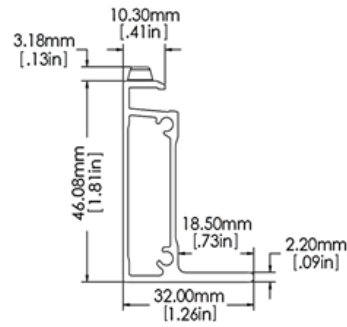
#### Gen 4 Frame-128 CELL

(SPR-E20-445-COM, SPR-E20-440-COM, SPR-E20-435-COM,  
SPR-E19-420-COM)

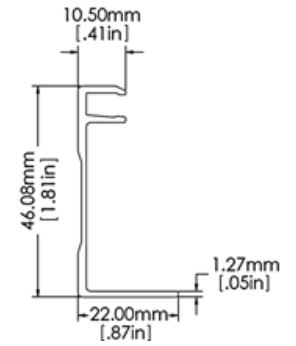


#### Gen 4 Frame Profile for 128 cell

Frame Extrusion, Side  
(with PEM Stud Height)

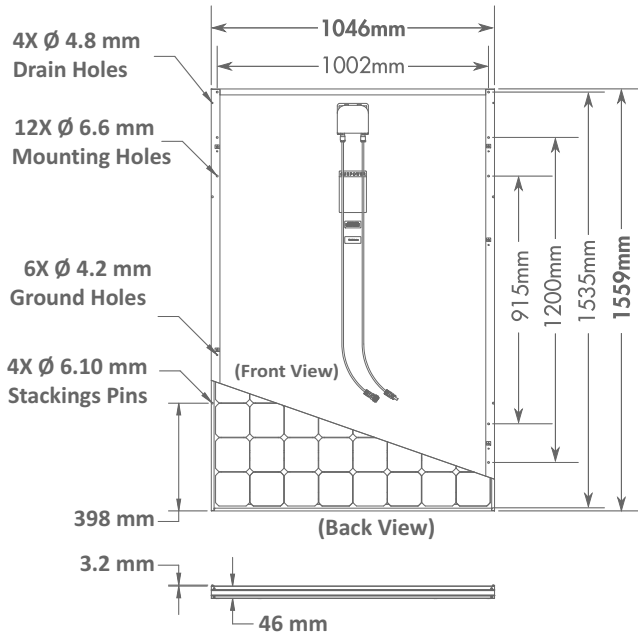


Frame Extrusion, End



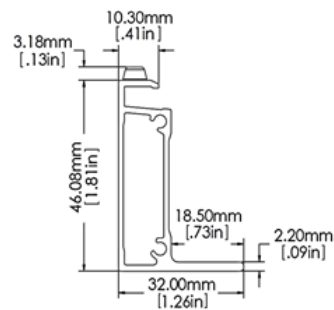
#### Gen 3 Frame-96 CELL (with stacking pins)

(SPR-E20-330-COM, SPR-E20-327-COM, SPR-E19-320-COM)

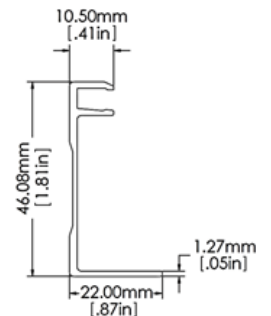


#### Gen 3 Frame Profile for 96 cell

Frame Extrusion, Side  
(with PEM Stud Height)

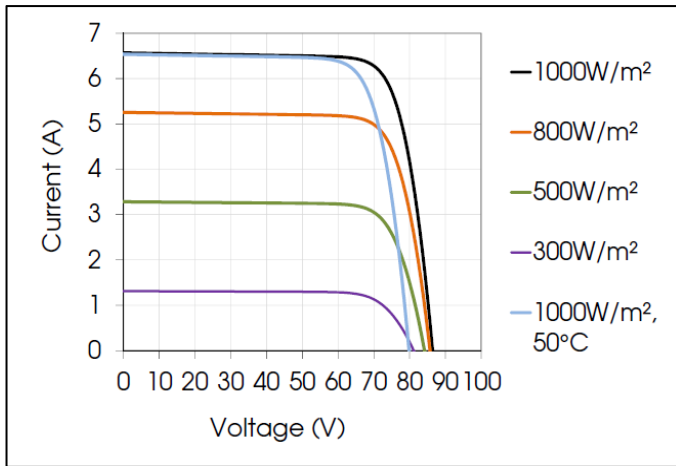


Frame Extrusion, End

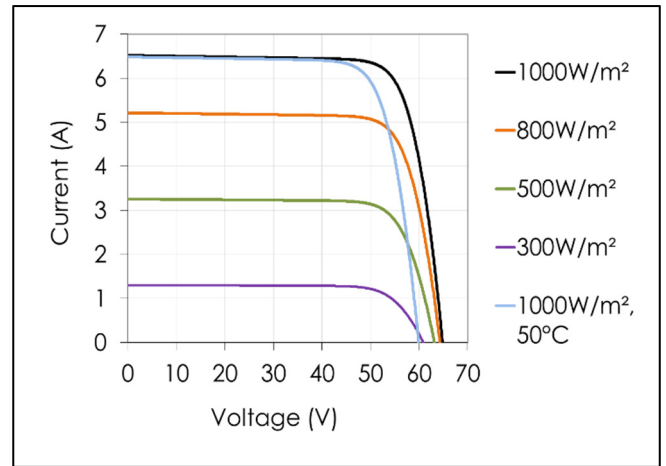


### IV CURVES OF PRIMARY PLATFORM MODELS

SPR-E20-445-COM



SPR-E20-330-COM



SPR-E20-327-COM

