

APPLIES TO: SPR-E20-327, SPR-E19-320, SPR-E19-320-BLK, SPR-E19-315-BLK

TESTS AND CERTIFICATIONS	
Standard tests	IEC61215, IEC61730, UL 1703 (Type 2 Fire Rating)
Quality tests	ISO 9001:2008, ISO 14001:2004
EHS Compliance	RoHS, OHSAS 18001:2007, lead free, PV Cycle, REACH SVHC-163, Cradle to Cradle
Ammonia test	IEC 62716
Desert test	10.1109/PVSC.2013.6744437
Salt-spray test	IEC 61701 (max. severity)
PID test	Potential-Induced Degradation free:1000V
Max Load	96 cell Wind: 2400 Pa, 244 kg/m ² front & back Snow: 5400 Pa, 550 kg/m ² front Cyclonic Wind: 7500 Pa, 764 kg/m ² front & back
Operating Temps	-40°C to +85°C (-40°F to +185°F)

WARRANTY, IMPACT RESISTANCE, FUSE RATING, J-BOX	
WARRANTIES	25-YEAR LINEAR POWER WARRANTY 25-YEAR LIMITED PRODUCT WARRANTY
Impact Resistance	25mm diameter hail at 23 m/s
Max Series Fuse	15 Amp rating
Connectors	MC4 with 1000mm cable lengths for 96
Junction Box	IP-65 Rated, Yukita

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

PLATFORM ELECTRICAL DATA STC Values

Module	Platform (Number of cells)	At Standard Test Conditions							
		Nominal Power (W)	Power Tolerance (%)	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-E20-327	96	327	+5/-0	54.7	5.98	64.9	6.46	600	1000
SPR-E19-320	96	320	+5/-0	54.7	5.86	64.8	6.24	600	1000
SPR-E19-320-BLK	96	320	+5/-0	54.7	5.86	64.8	6.24	600	1000
SPR-E19-315-BLK	96	315	+5/-0	54.7	5.76	64.6	6.14	600	1000

TEMPERATURE COEFFICIENTS & EFFICIENCY REFERENCES

Module	At Standard Test Conditions		Basic Temperature Data				Efficiency Numbers		
	Nominal Power (W)	Avg Power (W)	Current (Isc) Temp. Coeff. (mA/°C)	Voltage (Voc) Temp. Coeff. (mV/°C)	Power Temp. Coeff. (%/°C)	NOCT @ 20°C (Value +/- 2°C)	Average Power Efficiency (%)	Nominal Peak Power per Unit Area (W/m ²)	Nominal Peak Power per Unit Area (W/ft ²)
SPR-E20-327	327	333	2.6	-176.6	-0.35%	45.0	20.4%	201	18.6
SPR-E19-320	320	324	2.6	-176.6	-0.35%	45.0	19.9%	196	18.2
SPR-E19-320-BLK	320	324	2.6	-176.6	-0.35%	46.0	19.9%	196	18.2
SPR-E19-315-BLK	315	321	2.6	-176.6	-0.35%	46.0	19.7%	193	17.9

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

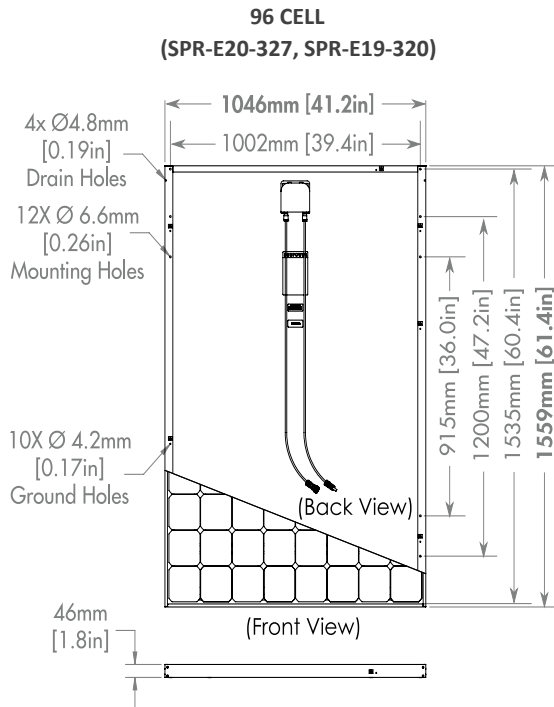
Module	At STC	Nominal Electrical data at NOCT (NOCT : 800W/m ² , 20°C amb. Temp., 1m/s wind speed)					
		NOCT Pnom (W)	NOCT Vmpp (V)	NOCT Impp (A)	NOCT Voc (V)	NOCT Isc (A)	NOCT % of rated
SPR-E20-327	327	246	51.5	4.82	60.8	5.22	75.2%
SPR-E19-320	320	243	51.5	4.72	60.7	5.04	75.9%
SPR-E19-320-BLK	320	237	50.2	4.72	60.5	5.04	74.1%
SPR-E19-315-BLK	315	233	50.2	4.97	60.3	4.97	74.0%

PLATFORM PERFORMANCE AT LOW IRRADIANCE (200 W/m², 25°C cell temperature, air mass 1.5 SSID*)

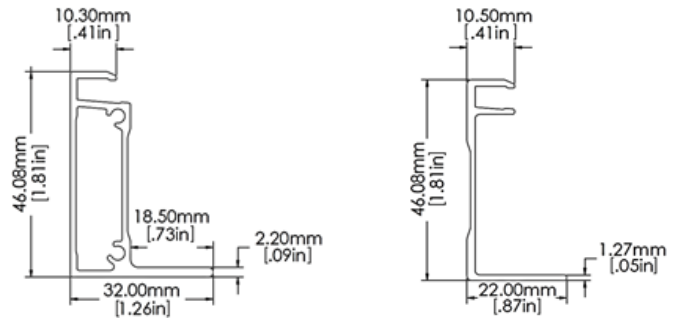
Module	At STC	Irradiance vs. Power at Low Irradiance (200W/m ² and @25°C (SNL coefficients))			
		Low irradiance Pmpp (W)	Low irradiance Vmpp (V)	Low irradiance Impp (A)	Pctg. of nominal power
SPR-E20-327	327	62.8	52.0	1.21	19.2%
SPR-E19-320	320	61.5	52.0	1.18	19.2%
SPR-E19-320-BLK	320	61.5	52.0	1.18	19.2%
SPR-E19-315-BLK	315	61.5	52.1	1.18	19.5

*SSID = Solar Spectral Irradiance Distribution

MODULE PLATFORM DIMENSIONS



Frame profile for 96 cell module
Frame Extrusion, Side Frame Extrusion, End



IV CURVES OF PRIMARY PLATFORM MODELS

SPR-E20-327

