

It Pays To Be Flexible

Building on 25 years of solar experience, the new, enhanced version efficiency, packing density and ease of installation, resulting in a low

Key Attributes

- Lightweight and flexible
- Roof-friendly solution requiring no penetrations
- BIPV & BAPV
- Superior performance at high temperatures
- Excellent performance even when partially shaded
- Built-in strain relief reduces installation labor and improves reliability
- Polarized, latching connectors
- Lead-free RoHS compliant design

Performance Characteristics

Rated Power (Pmax): 144, 136 or 68 Wp

Tolerance of Pmax: $\pm 5\%$

Mechanical Characteristics

Junction Box: IP66 terminal housing with integrated strain relief

Connectors: Polarized, weatherproof latching connectors with 4 mm² (12 AWG) halogen-free cables

Bypass Diodes: Connected across every solar cell

Front Surface: Durable ETFE high light-transmissive polymer

Adhesive: Peel and stick pressure sensitive adhesive (PSA)

Cell Type: Multi-junction amorphous silicon solar cells 356 mm x 239 mm (14" x 9.4")

Certifications and Warranty

- UL 1703 Listed by Underwriters Laboratories® for electrical and fire safety (Class A Max. Slope 2/12, Class B Max. Slope 3/12, Class C Unlimited Slope fire ratings) for use in systems up to 600 VDC
- IEC 61646 and IEC 61730 certified by TÜV Rheinland for use in Class A PV systems up to 1000 VDC
- MCS Certified
- CEC Listed

5-Year Limited Product Warranty

Limited Power Output Warranty: 92% at 10 years, 84% at 20 years, 80% at 25 years (of minimum power)

Application Criteria*

Suitable for installation on clean, dry approved substrates (refer to uni-solar.com for full details) at ambient temperatures above 10°C

Roof Requirements

Maximum slope of 60°

Install in areas free of water pooling

*Refer to United Solar's installation manuals for further application criteria



• Qualified, IEC 61646
• Safety Listed, IEC 61730
• Product Inspection



Lightweight



Flexible



No Penetrations



Shadow Tolerant



Durable



Easy to Install

Electrical Performance at Standard Test Conditions

(STC) (1000 W/m², AM 1.5, 25°C Cell Temperature)

	ePVL-144	ePVL-136	ePVL-68
Maximum Power (P _{max}):	144 W	136 W	68 W
Voltage at Pmax (V _{mpp}):	33.0 V	33.0 V	16.5 V
Current at Pmax (I _{mpp}):	4.4 A	4.1 A	4.1 A
Short-circuit Current (I _{sc}):	5.3 A	5.1 A	5.1 A
Open-circuit Voltage (V _{oc}):	46.2 V	46.2 V	23.1 V
Maximum Series Fuse Rating:	10 A	10 A	10 A
Limiting Reverse Current:	10 A	10 A	10 A

Temperature Coefficients (TC)* (at AM 1.5, 1000 W/m² irradiance)

TC of I _{sc}	0.0010/K (0.10%/°C)
TC of V _{oc}	-0.0038/K (-0.38%/°C)
TC of P _{max}	-0.0021/K (-0.21%/°C)
TC of I _{mpp}	0.0010/K (0.10%/°C)
TC of V _{mpp}	-0.0031/K (-0.31%/°C)

Electrical Performance at Nominal Operating Cell

Temperature (NOCT) (800 W/m², AM 1.5, 1 m/sec. wind)

	ePVL-144	ePVL-136	ePVL-68
Maximum Power (P _{max}):	111 W	105 W	53 W
Voltage at Pmax (V _{mpp}):	30.8 V	30.8 V	15.4 V
Current at Pmax (I _{mpp}):	3.6 A	3.4 A	3.4 A
Short-circuit Current (I _{sc}):	4.3 A	4.1 A	4.1 A
Open-circuit Voltage (V _{oc}):	42.2 V	42.2 V	21.1 V
NOCT:	46°C	46°C	46°C

Notes:

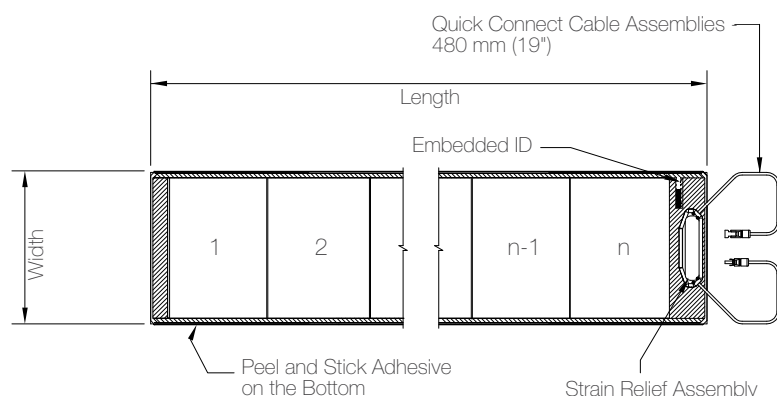
- During the first 8-10 weeks of operation, electrical output exceeds specified ratings. Power output may be higher by 15%, operating voltage may be higher by 8%, and operating current may be higher by 7%, Voc may be higher by 4% and Isc may be higher by 2%.
- Production tolerance for Pmax at standard test conditions (STC) is +/-5% and for other electrical parameters is +/-10%. Electrical specifications are based on measurements performed at STC of 1000 W/m², AM1.5 and cell temperature of 25°C (per ASTM E892) after long-term stabilization. Actual performance may vary up to 10% from rated power due to low temperature operation, spectral and other related effects. Maximum system open-circuit voltage not to exceed 600 VDC per UL, 1000 VDC per IEC regulations.
- Specifications subject to change without notice.

*To determine performance of a module at a different temperature, use the following formula: $y = y_{reference} \times [1 + TC \times (T - T_{reference})]$

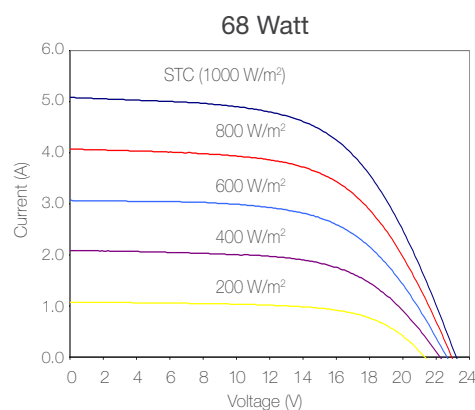
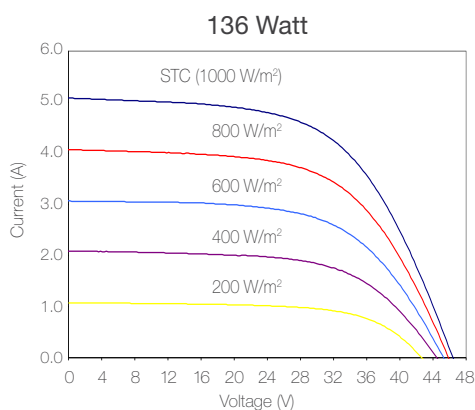
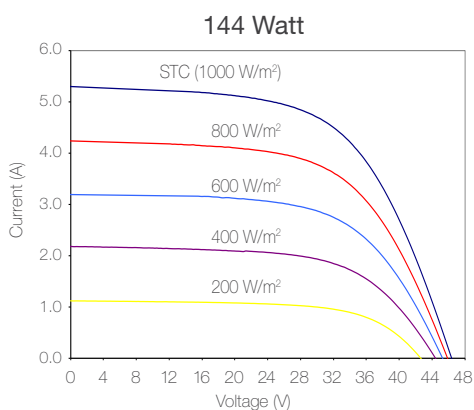
Physical Characteristics

	ePVL-136 ePVL-144	ePVL-68
Length:	5412 mm (213.1")	2771 mm (109.1")
Width:	373 mm (14.69")	373 mm (14.69")
Laminate Thickness:	3 mm (.12")	3 mm (.12")
Overall Thickness: (including adhesive and terminal housing)	21 mm (.83")	21 mm (.83")
Weight:	7.4 kg (16.2 lbs)	3.9 kg (8.5 lbs)
Number of Cells:	22 (n)	11 (n)

Tolerances: Length: ± 5 mm (1/4"), Width: ± 5 mm (1/4")



IV Curves at Various Levels of Irradiance at Air Mass 1.5 and 25°C Cell Temperature



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PowerBond ePVL

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