Solar Laminate PVL-Series

Model: PVL-136

Data Sheet

- **High Temperature and Low Light Performance**
- **20 Year Warranty on Power Output at 80%**
- **Quick-Connect Terminals***
- **Bypass Diodes for Shadow Tolerance**
- **UL Listed to 600 VDC**
- **Meets IEC 61646 Requirements**

PERFORMANCE CHARACTERISTICS

Rated Power (Pmax): 136W
Production Tolerance: ± 5%

CONSTRUCTION CHARACTERISTICS

Dimensions: Length: 5486mm (216”), Width: 394mm (15.5”), Depth: 4mm (0.2”), 16mm (0.6”) including potted terminal housing assembly.
Weight: 7.7 kg (17.0 lbs.).
Output Cables: ~2.5mm^2 cable with weatherproof DC rated quick-connect terminals* 560mm (22”) length.
By-pass Diodes: Connected across every solar cell.
Laminate Encapsulation: Durable ETFE (e.g. Tefzel®) high light-transmissive polymer.
Adhesive: Ethylene propylene copolymer adhesive-sealant with microbial inhibitor.
Cell Type: 22 triple junction amorphous silicon solar cells 356 x 239mm (14” x 9.4”) connected in series.

QUALIFICATIONS AND SAFETY

Listed by Underwriter’s Laboratories for electrical and fire safety (Class A Max. Slope 2/12, Class B Max. Slope 3/12, and Class C Unlimited Slope fire ratings) for use in systems up to 600 VDC.

LAMINATE STANDARD CONFIGURATION

Photovoltaic laminate with potted terminal housing assembly with output cables and quick-connect terminals.*

OPTIONAL CONFIGURATION

Photovoltaic laminate with junction box.

*e.g., Multi-Contact (MC®) connectors.

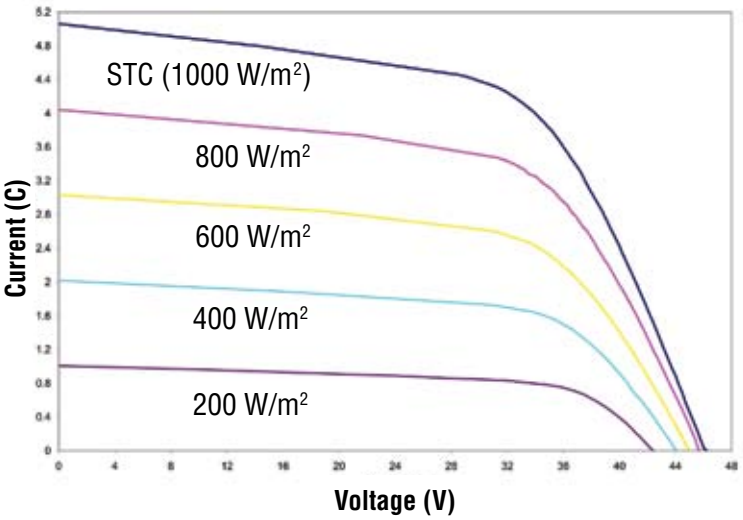
APPLICATION CRITERION

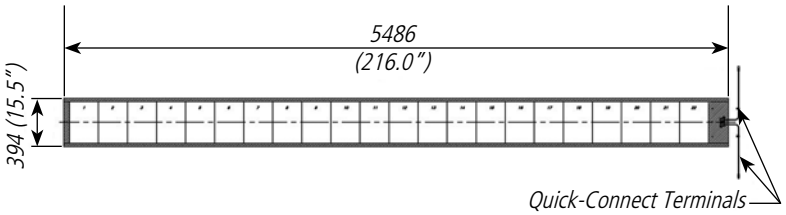
- New or qualified new roof installations
- 16” minimum steel pan width
- PVDF Coated (Galvalume® or Zincalume®) steel metal pan
- Steel pans with flat surface (without pencil beads or decorative stippling)
- Installation by certified installers only
- Installation temperature between 10°C - 40°C (50°F - 100°F)
- Maximum roof temperature 85°C (185°F)
- Minimum slope 1:12 (5°)
  Maximum slope 21:12 (60°)
- Refer to manufacturers installation guide for approved substrates & installation methods

FLEXIBLE
LIGHTWEIGHT
NO-GLASS
DURABLE
SHADOW TOLERANT
HIGH TEMP PERFORMANCE

UNI-SOLAR®

IV Curves at various levels of irradiance at Air Mass 1.5 and 25° C Cell Temperature





PVL-136

All measurements in mm.
Inches in parentheses.
Tolerances Length: ± 5mm (1/4")
Width: ± 3mm (1/8")

ELECTRICAL SPECIFICATIONS: STC

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

Maximum Power (Pmax): 136 W	
Voltage at Pmax (Vmp): 33.0 V	
Current at Pmax (Imp): 4.1 A	
Short-circuit Current (Isc): 5.1 A	
Open-circuit Voltage (Voc): 46.2 V	
Maximum Series Fuse Rating: 8 A	

NOCT

(800 W/m², AM 1.5, 1 m/sec. wind)

Maximum Power (Pmax): 105 W
Voltage at Pmax (Vmp): 30.8 V
Current at Pmax (Imp): 3.42 A
Short-circuit Current (Isc): 4.1 A
Open-circuit Voltage (Voc): 42.2 V
NOCT: 46° C

TEMPERATURE COEFFICIENTS

(at AM 1.5, 1000 W/m² irradiance)

Temperature Coefficient of Isc: 5.1mA/K (0.10%/°C)	Temperature Coefficient of Imp: 4.1mA/K (0.10%/°C)
Temperature Coefficient of Voc: -176mV/K (-0.38%/°C)	Temperature Coefficient of Vmp: -102mV/K (-0.31%/°C)
Temperature Coefficient of Pmax: -286mW/K (-0.21%/°C)	

NOTES:
1. 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 11% and operating current may be higher by 4%.
2. Electrical specifications are based on measurements performed at standard test conditions of 1000 W/m2 irradiance, Air Mass 1.5, and Cell Temperature of 25°C after stabilization.
3. 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.
4. Specifications subject to change without notice.

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