Model: PVL-128

• High Temperature and Low Light Performance
• 20 Year Warranty on Power Output at 80%
• Quick-Connect Terminals* and Adhesive Backing
• Bypass Diodes for Shadow Tolerance
• UL 1703 Listed to 600 VDC
• IEC 61646 v1 certified
• IEC 61646 v2 and 61730, TUV certification pending

Performance Characteristics
Rated Power ($P_{max}$): 128 Wp
Production $P_{max}$ Tolerance: ± 5%

Construction Characteristics
Dimensions: Length: 5486 mm (216"), Width: 394 mm (15.5"), Depth: 4 mm (0.2"), 16 mm (0.6") including potted terminal housing assembly
Weight: 7.7 kg (17.0 lbs)
Output Cables: 4 mm² (12 AWG) cable with weatherproof DC rated quick-connect terminals* 560mm (22") length.
By-pass Diodes: Connected across every solar cell
Encapsulation: Durable ETFE high light-transmissive polymer
Adhesive: Ethylene propylene copolymer adhesive-sealant with microbial inhibitor
Cell Type: 22 triple junction amorphous silicon solar cells 356 mm x 239 mm (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, 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*

Application Criterion
• New or qualified new roof installations
• 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: 5/8:12 (3°)
• Maximum slope 21:12 (60°)
• Membrane: Select EPDM and TPO substrates from approved manufacturers only
• Metal: PVDF Coated (Galvalume® or Zincalume®) steel metal roofing pan with flat surface (without pencil beads or decorative stippling) and 406 mm (16") minimum width

Refer to manufacturers installation guide for approved substrates and installation methods

*e.g., Multi-Contact (MC®) Connectors
IV Curves at various Levels of Irradiance at Air Mass 1.5 and 25 °C Cell Temperature

**Electrical Specifications**

**STC**  
(Standard Test Conditions)  
(1000 W/m², AM 1.5, 25 °C Cell Temperature)  
Maximum Power \( P_{\text{max}} \): 128 W  
Voltage at \( P_{\text{max}} \) \( V_{\text{mp}} \): 33.0 V  
Current at \( P_{\text{max}} \) \( I_{\text{mp}} \): 3.88 A  
Short-circuit Current \( I_{\text{sc}} \): 4.8 A  
Open-circuit Voltage \( V_{\text{oc}} \): 47.6 V  
Maximum Series Fuse Rating: 8 A  

**NOCT**  
(Nominal Operating Cell Temperature)  
(800 W/m², AM 1.5, 1 m/sec. wind)  
Maximum Power \( P_{\text{max}} \): 100 W  
Voltage at \( P_{\text{max}} \) \( V_{\text{mp}} \): 30.8 V  
Current at \( P_{\text{max}} \) \( I_{\text{mp}} \): 3.24 A  
Short-circuit Current \( I_{\text{sc}} \): 3.9 A  
Open-circuit Voltage \( V_{\text{oc}} \): 43.5 V  
NOCT: 46 °C  

**Temperature Coefficients**  
(at AM 1.5, 1000 W/m² irradiance)  
Temperature Coefficient (TC) of \( I_{\text{sc}} \): -0.0038/°K (-0.38%/°C)  
Temperature Coefficient (TC) of \( P_{\text{max}} \): -0.0021/°K (-0.21%/°C)  
Temperature Coefficient (TC) of \( I_{\text{mp}} \): 0.001/°K (0.10%/°C)  
Temperature Coefficient (TC) of \( V_{\text{mp}} \): -0.0031/°K (-0.31%/°C)  
\[ y = y_{\text{reference}} \times (1 + TC \times (T - \text{Reference})) \]

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.