

- High Temperature and Low Light Performance
- 20 Year Warranty on Power Output at 80 %
- Multi-Contact Connectors or Junction Box
- Bypass Diodes for Shadow Tolerance
- UL Listed to 600 VDC
- Meets IEC 61646 Requirements

Performance Characteristics

Rated Power (P_{max}): 136 Wp

Production Tolerance: $\pm 5\%$

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: ~2.5 mm² cable with weatherproof DC rated Multi-Contact (MC®)
connectors – 560 mm (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 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 Multi-Contact (MC®) connectors.

Optional Configuration

Photovoltaic laminate with junction box.

Application Criterion

- New or qualified new roof installations
- 400 mm (16") minimum steel pan width
- PVDF Coated (Galvalume® or Zinalume® 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 and installation methods



Flexible



Lightweight



No-Glass



Durable

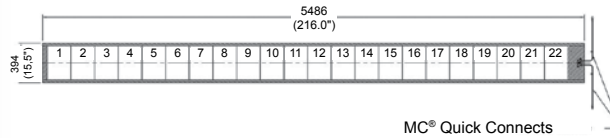
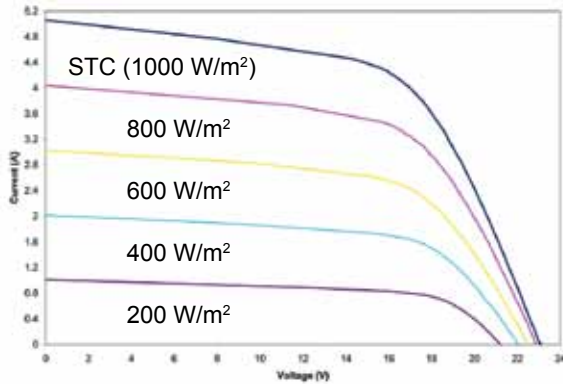


Shadow Tolerant



High Temp
Performance

I-V 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: ± 5 mm (1/4"), Width: ± 3 mm (1/8")

Electrical Specifications

STC

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

Maximum Power (P_{max}): 136 W
Voltage at Pmax (V_{mp}): 33.0 V
Current at Pmax (I_{mp}): 4.1 A
Short-circuit Current (I_{sc}): 5.1 A
Open-circuit Voltage (V_{oc}): 46.2 V
Maximum Series Fuse Rating: 8 A

Temperature Coefficients

(at AM 1.5, 1000 W/m² irradiance)

Temperature Coefficient of I_{sc} : 5.1 mA/K (0.10 %/°C)
Temperature Coefficient of V_{oc} : -176 mV/K (-0.38 %/°C)
Temperature Coefficient of P_{max} : -286 mW/K (-0.21 %/°C)
Temperature Coefficient of I_{mp} : 4.1 mA/K (0.10 %/°C)
Temperature Coefficient of V_{mp} : -102 mV/K (-0.31 %/°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 (± 5 %) 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.

NOCT

(Nominal Operating Cell Temperature)
(800 W/m², AM 1.5, 1 m/sec. wind)

Maximum Power (P_{max}): 105 W
Voltage at Pmax (V_{mp}): 30.8 V
Current at Pmax (I_{mp}): 3.42 A
Short-circuit Current (I_{sc}): 4.1 A
Open-circuit Voltage (V_{oc}): 42.2 V
NOCT: 46 °C

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