



**SOLARTECH**<sup>®</sup>  
POWER, INC.

## F-Series 135W PV Module SPM135P-S-F

### Solartech F-Series Modules

Solartech photovoltaic F-Series Modules are constructed with high efficient polycrystalline solar cells and produce higher output per module than others in its class. This industrial grade module is an industry standard among various industry professionals.

### Features

Class 1, Division 2, (C1D2) Group C and D

- Accessible junction box with 4-1/2 knockout for ease of installation.
- (EVA) with TPT cushions the solar cells within the laminate and ensures the operating characteristics of the solar cells under virtually any climatic condition
- Rigid anodized aluminum frame and low iron tempered glass
- Easily accessible grounding points on all four corners for fast installation
- Proven junction box technology

### Reliability

- Proven superior field performance
- Tight power tolerance

### Qualifications and Certifications



### Applications

- Traffic & Safety
- Federal Government
- Oil & Gas
- Security
- Telecommunications
- Water and Wastewater
- Weather & Environmental Monitoring
- RV Camper
- Emergency Power
- Telemetry
- SCADA, RTU, GPS
- Marine
- Area Lighting & Sign

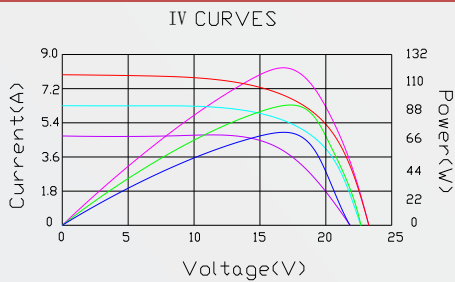
## Electrical Characteristics

Max power(Pm)	135W
Maximum power voltage(Vpm)	18.3V
Maximum power current (Ipm)	7.56A
Short circuit current (Isc)	8.08A
Open circuit voltage (Voc)	22.2V
Module efficiency	13.47%
Tolerance	±5%
Nominal Voltage	12V
Temperature coefficient of Voc	-0.36%/K
Temperature coefficient of Pm	-0.46%/K
Temperature coefficient of Isc	0.05%/K
NOCT	48°C±2°C
Maximum series fuse rating	12A
Maximum system voltage	1000V

## Mechanical Characteristics

Construction	Tempered glass, silicon cell, EVA, Polyester with Tedlar
Solar Cells	36 cells (156mm x 156mm) in a 4x9 matrix connected in series
Front Cover	High transmission 3.2mm(1/8") glass
Encapsulant	EVA(Double layers)
Back Cover	White polyester
Frame	Anodized aluminum
Junction Box	IP65, UL94-5VA material
Diodes	Schottky by-pass diodes
Terminal	Accept 8-14 AWG wire
Dimensions	57.7in (1466mm)x26.0in (660mm)x1.97in (50mm)
Weight	26.51b (12.0kg)
Operating Temperature	-40°C ~ 90°C
Storage Humidity	<90%

## IV Curves



## Warranty

25-year limited warranty of 80% power output;  
12-year limited warranty of 90% power output;  
5-year limited warranty of materials and workmanship

## Certifications

IEC61215, TUV certification  
UL 1703 certification  
ETL Class I ,Division 2,Groups C and D certification

