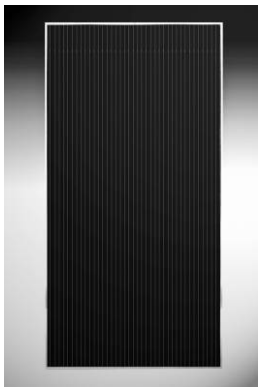


EPV-42 Module Product Specification

The EPV-42 is a thin-film photovoltaic (“PV”) module with amorphous silicon monolithically-integrated devices and a stabilized power rating of 42 watts at maximum power point under standard test conditions (“STC”). This module is rated for use in applications with a maximum system voltage of DC 600 V with U.S. style wiring and DC 1000 V for European style wiring.



Physical Characteristics

The module is a frameless glass laminate consisting of two 0.125 in. (0.3 cm) annealed float glass lites, laminated with EVA (ethylene vinyl acetate) to provide an environmental seal. The module dimensions are 25 in. x 49 in. (63.5 cm x 124.5 cm), and the weight is approximately 27 lbs. (12.3 kg). Electrical connections are made via two 18” (45.7 cm) leads emanating from a sealed boot. For modules to be used in the U.S., leads are one red and one black, 14-gauge, XLP 600 V ((USE-2) rated per the U.S. National Electrical Code (NEC) article 690). For modules used outside the U.S., see “Options and Specialty Modules”.

Electrical Characteristics

The rated electrical parameters of the module under Standard Test Conditions (“STC”) and under PVUSA Test Conditions (“PTC”) are:

	<u>STC⁽¹⁾</u>	<u>PTC⁽²⁾</u>
Open-Circuit Voltage (V_{oc})	60.0 V	57.0 V
Short-Circuit Current (I_{sc})	1.18 A	1.20 A
Operating Voltage (V_{mp})	45.0 V	43.0 V
Operating Current (I_{mp})	0.94 A	0.95 A
Nominal power (P_{mp})	42.0 W	40.5 W
Temperature coefficients:	V_{oc}, V_{mp}	-0.28%/°C
	I_{sc}, I_{mp}	+0.09%/°C
	P_{mp}	-0.19%/°C

¹ STC is defined as 1,000 W/m² irradiance, AM1.5 solar spectral distribution, 25°C cell temperature.

² PTC is defined as 1,000 W/m², AM1.5, 20°C ambient temperature, 1m/s wind speed.

The rating of the EPV-42 module takes into account the attenuation that occurs during the first several months of module deployment. A label on the rear of the module provides both the rated and measured electrical parameters.

Initial Performance

When an EPV-42 module is first deployed, its output characteristics at STC are higher than the rated values at STC. Power may be between 12% and 20% higher than the rated value, operating voltage may be up to 6% higher, operating current may be up to 14% higher, and short-circuit current may be up to 5% higher. These higher values and other applicable documents (i.e. NEC 690 and Underwriters Laboratories (UL) 1703) should be considered when designing the PV system.



Certifications

The EPV-42 is certified pursuant to the International Electrotechnical Commission (IEC) 61646 tests as performed by the Photovoltaic Testing Laboratory of Arizona State University and is UL listed. Through Verband der Elektrotechnik (VDE), the EPV-42 has received approval for Safety Class II for DC 1000 V through applied standards IEC 61430-1 and IEC 61730-2.

Limited Warranty

The EPV-42 comes with a limited warranty covering defects in workmanship or materials for 2 years, and performance for a period of 25 years. Please refer to the EPV Amorphous Silicon Photovoltaic Module Limited Warranty for details. Care must be taken when handling and installing the module to avoid edge damage to the glass or undue glass stress. Modules are shipped with plastic corner protectors that should be removed after the module is installed.

Options and Specialty Modules

Options such as longer or shorter lead lengths, different wire for use in countries other than the U.S., electrical connectors, alternative mounting methods, or different module voltage and current ratings are available to meet specific customer requirements. Specialty modules, including partially-transparent (with custom logos or artwork, if desired) or building integrated photovoltaic (BIPV) modules, may also be available.

